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NEWS IN BRIEF

Scharansky seriously ill

COMPUTER scientist Anatoly Scharansky, jailed last year by the Soviet authorities because of his involvement with the group monitoring the Helsinki human rights agreement, is reported to be seriously ill. His mother, who travelled to a prison 500 miles from Moscow to see him for the first time in a year, said he was suffering from an illness that was affecting his eyesight.

At the time of his trial Computer Weekly readers joined with Professor Donald Michie of Edinburgh to send an appeal to the Soviet leaders asking for observers to be present. The request was not granted.

Meanwhile in Moscow, at the congress of the International Political Science Association there have been protests that Professor Alexander Lerner, a cybernetics specialist, has been barred from attending. He has been seeking permission to emigrate for six years.

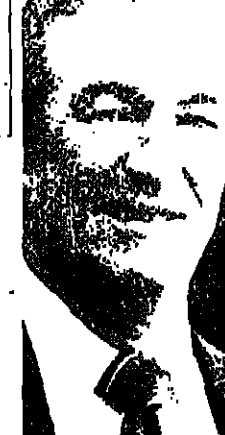
Motorola move

MARC LASSOUS has left his job as managing director of Motorola Semiconductors UK, to join the new US-French semiconductor venture, Matra-Harris. His replacement, at Motorola's Scotland headquarters is Wolf Loescher, from the company's Austin, Texas facility.

Store order

MARKS and Spencer has become the latest UK customer for Telecomputing's transaction processing monitor TPS.

Gene Amdahl to retire



EUGENE WHITE... the new chairman.

AMDAHL CORP boss, Dr Gene Amdahl, is giving up his post as chairman of the board on September 1 and plans to retire from the company early in 1981. He said that his decision was entirely independent of the merger discussions between Amdahl and Memorex (CW, August 9).

Amdahl, who is 57, said that the move would allow him to continue to contribute to the technical and strategic activities of the company while permitting him to spend more time on his personal affairs.

After September 1 he will be chairman emeritus of Amdahl Corp and also chairman of a newly formed Technical Excellence Committee. Taking over the chairman's role is the present deputy chairman, Eugene White.

Meanwhile, Memorex chairman Robert

Wilson, who also hopes to retire soon, has written to all the company's employees about the merger talks, explaining that they are "exploratory" and that it could be several months before any conclusion. He believes the deal could be beneficial to Memorex employees and that he could recommend acceptance of the Amdahl offer to the Memorex board.

According to sources in the US the general feeling among Memorex employees at its Santa Clara, California, headquarters is favourable towards the deal.

In the UK, the managing director of Amdahl Ltd, Peter Williams, was not prepared to comment on any staff rationalisation that might be required here if the deal went through. This is a sensitive subject in view of the upheavals that took place when Memorex merged with Telex early last year.



GENE AMDAHL... to be chairman emeritus.

Foreign threat to Prestel suppliers

FOREIGN suppliers could pose a serious threat to UK producers of Prestel receivers when a six-month moratorium on non-UK equipment ends next month and the system goes public.

One UK-based company, ITT Consumer Products, is in a strong position, having already received substantial pre-launch orders and, according to a company spokesman, is "well placed for the move into volume production of Prestel receivers in the autumn of next year."

However, the entry into the Prestel receiver market by non-UK firms like Sony, Mitsubishi, and National Panasonic is expected to be swift. Sony is expected to be demonstrating 14 inch and 18 inch Prestel receivers at the Professional Viewdata Exhibition to be held at the West Centre Hotel, London, on November 7 and 8.

Hoping to stimulate public interest in Prestel, the Post

Office had put together a £500,000 advertising campaign that was to be launched in September on TV and in national newspapers.

This has now been postponed until March 1980 as BREMA, the set manufacturers' trade association, reported that its members could not meet the expected demand. It will be at least another six months before production levels are high enough, it said.

On the question of whether or not foreign competitors were a clear threat to UK manufacturers because of the delay, a spokesman for BREMA said that it would be no more significant than the type of competition seen in the standard television market.

Also certain that the UK would not lose the lead in viewdata technology, a Post Office spokesman said: "There still is a great deal of interest in Prestel from overseas. I don't think we have lost any ground."

Despite the temporary loss of the advertising campaign, the Post Office is to go ahead with the public launch of Prestel by installing three new computer systems in London in September.

One, a master editing system for information providers, will be installed at the Clerkenwell exchange. The remaining two user systems will go to the Wood Green and Fleet exchanges.

By December, the plan is to extend the service outside London with retrieval systems at Birmingham, Edinburgh, Manchester and Croydon, followed later by Nottingham, Glasgow, Liverpool, Luton, Reading, Sevenoaks, and Brighton. At that time, about 50% of the UK telephone population will be entered for.

It will not be until mid-1980 that this figure will increase to 80% and the number of user access ports will stand at 70,000 business and about 200,000 residential.

Switch to a master distributor

ANOTHER US microcomputer manufacturer has changed from a fragmented UK distribution network to a master distributorship.

This time it is Alpha Micro-Systems of Irvine, California, and the new master distributor, Alpha MicroSystems (UK), takes over for all Europe, including the UK.

Alpha in the UK is the brainchild of Leslie Button, managing director of David Hicks International Management. Registered in November 1977, it was originally named Crown Shield, and had no previous track record in the computer business. It was formed by Button as a marketing venture looking for a product.

Eventually the choice fell on Alpha Micro, very much a top end microcomputer, with typical configurations costing about £20,000.

In June, Crown Shield signed an exclusive distributor agreement with Alpha MicroSystems in the UK, and changed its name to that of its American supplier. It subsequently gained the European distributorship.

Currently there are some 30 distributors in Europe.

Waiting game on the 4300s

ALTHOUGH many US customers have been given delivery dates for the 4300 series machines they have ordered, and some have discovered they will have to wait over two years or more, that is not the whole story.

Two leasing companies, Greyhound and DPF, have been quoted in the Wall Street Journal that they ordered scores of machines but have been given delivery dates on only about six of them.

Declining to comment on the cases of Greyhound and DPF, IBM said that delivery dates were assigned through a randomisation procedure that was fair and equitable to all customers.

"Some orders were for several machines, and some of these customers have not yet received dates for all the systems they ordered. Precise delivery dates have not yet been formally published," the company added.

"It should be understood that any figures quoted could be misleading since some customers may not want their machines as soon as scheduled." The implications of IBM's statements, which are in the context of the US market, appear to be that part of the "fair and equitable" process is left only a handful of machines at the moment for customers placing multiple orders, and that the dates are allocated to the remainder of such orders. This will be later than the last allocated date.

Briefing Mostek/Inmos suit settled

THE law suit between the US company Mostek, and the National Enterprise Board's Inmos has been settled out of court. Mostek's action was aimed at preventing former employees, led by Inmos director Paul Schroeder, using its trade secrets with the NEB subsidiary.

An agreed settlement, which prevents Mostek from bringing further action, has effectively ended the suit in favour of Inmos.

Memories deal

IBM compatible add-on memory systems supplied by EM&M in Europe are now to be maintained by Memorex under an agreement between the two firms under which Memorex has also bought the European lease base of EM&M memories.

Piggyback snags

INDUSTRY sources say that Intel and Texas Instruments are having such difficulty in piggybacking 32K hybrid RAMS in the piggyback manner that IBM requires - two 16K chips mounted one on another on a substrate - that IBM is to pay on extra \$1 to \$2 per chip over the price of about \$5 it originally agreed to pay for the 18 million parts.

\$9m Wang order

A SUBSTANTIAL vote of confidence in Wang's recently announced VS/VP Integrated Information System (CW, June 7) has been made by the US State Department, which has ordered 34 machines, costing \$9 million, to be installed in embassies around the world.

16-bit mini launch

A NEW UK manufactured 16-bit microcomputer has been introduced by Intersect Computer Systems of Midsummer Norton, near Bath. Called the IS2000, it employs the ubiquitous AMD 2901 bit slice bipolar chip set along with a microcoded instruction set. OEM prices start at £2,200 for a basic machine with 4K words of memory.

GPRS drops micros

THE role of the government's Think Tank, the Central Policy Review Staff, as co-ordinator of research and investigation into a wide range of aspects of microelectronics, has been dropped. Each government department involved in such work will continue its efforts, with co-ordination carried out on the Whitehall "grapevine".

E German thrust

EAST GERMANY appears to be gearing up for a major thrust into microelectronics. It has graphic equipment capable of producing VLSI components, and seems to be concentrating on circuit designs. One area thought to be in the development of the IBM 4300 range. Full story in Micro News, page 11.

CAP director drowns in Fastnet disaster

AMONG those lost in the storm that engulfed the Fastnet Rock race last week was David Sheehan, financial director of CAP. CAP and a founder of the original CAP company in 1982.

The Gremlins, which he owned and skippered, was turned over by the sea. It is understood he had to unhook his safety line to surface and was swept away.

His son Matthew, and other crew members, were later picked up by helicopter from life-rafts but one of them, Gerald Winks, died before they reached Culdroe airbase.

An account, Sheehan was first involved with data processing in 1959 when he was designing systems for various accountancy applications. Since the establishment of CAP he had guided the company's financial and legal affairs and he also took an active part in the development of the BCS.

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David Sheehan

Intel, NatSemi in takeover talks

TRIPARTITE talks are under way between Intel, National Semiconductor and Hitachi which could lead to National Semiconductor taking over the troubled IBM-compatible computer business of Intel, and marketing of large-scale Hitachi mainframes in the US.

Details of the talks, have not yet been disclosed but will, if successful, lead to an announcement very shortly.

National Semiconductor has just entered the IBM-compatible business in its own right with a machine called the 8500, which it describes as a 370/158-class machine. Currently being sold in five US cities, it is to be launched in Europe later this year (CW, July 26).

Meanwhile the reconstruction of Intel continues with the sale of three service bureau operations to Computer Sciences Corp of El Segundo, California.

They are the Batch plus the Data and Online divisions in White Plains, New York, and the Professional Services division in Los Angeles. CSC is to pay \$19 million for the three, which together employ about 800 people.

Hitachi is also to reduce its delivery of large machines to Intel. It is understood that Intel will only take 30 to 60 this year instead of the planned 90. Intel's second quarter figures are as bad as expected, with a

loss of \$19 million on turnover of \$108.3 million. The first half loss was \$60.1 million on turnover of \$347.5 million.

The losses include substantial provisions for depreciating the values of computer equipment because of IBM's reduced prices, and costs likely to be incurred in closing down operations, buying off staff and selling assets.

The company says that its

transport leasing business had expanded on the money generated by computer operations, and that IBM's new price structure threw Intel's strategy into disarray, turning computers from a cash generator into a cash user.

The figures, graphically underline Intel's problems in the first half of 1979, the company's

● Turn to back page

IBM fax could be world standard

A DATA compression method developed by two IBM scientists that would theoretically allow facsimile transmissions to be made in one minute using simpler hardware than that presently available, could soon become a worldwide standard.

Invented by Drs Joan Mitchell and Gerald Goertzel, of the Thomas J. Watson Research Centre, Yorktown Heights, New York, the method uses a "run-length coding" technique which allows the fax machine to use a shorthand coding to record the image to be transmitted. Each unbroken run of black and white picture elements is given a code word composed of bits which designate the number of picture elements in the run.

The algorithm used in the Mitchell-Goertzel theory operates on the principle that a run-length is much more likely to be followed by another run-length or a vertical reference is much more likely to be followed by a vertical reference.

Further data compression can

be achieved by taking note of the fact that certain bit patterns can be encoded as either a vertical reference or as a run-length - according to IBM "an inefficient use of the code word bit patterns."

Instead, "the facsimile machine automatically detects this potential redundancy: run-lengths which could be encoded as vertical references or as run-lengths. A vertical reference is always the shorter code. Only when there are no possible vertical references, is the run-length procedure used; as a consequence, the average code word is shorter."

The method is under consideration as world standard by the International Consultative Committee on Telegraphy and Telephony, as is one other manufacturer's.

The closest IBM has to a facsimile system is the IBM 6670 introduced earlier this year which incorporates a laser printer, and communications equipment for word and data processing.

Stripped-down 3033 imminent

ANNOUNCEMENT of the stripped-down IBM 3033 to replace the 3032 is imminent. The new machine, exclusively revealed in Computer Weekly (July 19) is code-named Newport and is expected to be called the AS/400. Power rating is likely to be about 0.2 million instructions per second, compared with 0.4 for the 3032.

Meanwhile IBM has stopped manufacture of the 3032. One school of thought believes that the 3033-D and an enhanced 3033 will undergo a metamorphosis to become the first two models of the H-series. The smallest H is expected to have a mid rating of about 3.2 and the next model up a rating of about 6.2.

● Hugh Winters talks to Gene

NEB puts £5m into US systems firm

THE activities of the National Enterprise Board in high technology have taken a turn towards immediate practical applications instead of long term strategies, with the setting up of a joint venture with QI Corp of New York to make and sell small office computers. The NEB will invest up to £5 million in the scheme, which is the first major venture for the Board since the arrival of Sir Keith Joseph's new board.

QI is a small, advanced-technology firm whose products include a highly compact and portable multifunction microcomputer combining twin floppy disc drives, a plasma display, a matrix printer, and a keyboard all in one typewriter-sized unit. It is intended for accounting, word processing, and scientific desk-top work; it has communications facilities and so can be used as a data entry terminal; and has a range of software of the type used by the IBM 5100.

The joint company will be set up in the UK by QI staff and will be half-owned by the NEB. It will aim to manufacture QI's products, market them in Europe, and develop them further, mainly on the software side. According to QI, a significant amount of this work is planned for the UK venture.

This will be quite separate from Nexos, the Board's office systems firm, and will not be part of the grand strategy to develop an integrated systems architecture for offices, but talks have been held with Nexos, which is interested and may co-operate in marketing the machines.

QI is already operating in Europe, out of Brussels, having done £750,000 worth of business there last year out of its total turnover of £1.5 million.

Based in Huppauge, New York, QI has links with several other small, high-technology companies all producing advanced products which could well be combined into some attractive systems. The firm is already working on bubble memories, and other printers which would be more versatile and have fewer moving parts.

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End in sight to postal strike














STRIKE action by Post Office staff, which has disrupted computer operations and created a telephone billing backlog of almost £1,000 million, looks like ending following a return to work by clerical staff this week and an improved offer to supervisory staff, who include 123 computer personnel.

The 6,000 supervisory staff, members of the Society of Civil and Public Servants, were seeking more than the offer of a 9% increase from April 1 this year, and further increases from July 1, bringing the total offer to between 18 and 24%.

The 36,000 clerical members of the Civil and Public Servants Assn. have accepted this offer.

The new offer to supervisory staff is better to the extent that, instead of just some grades getting a 7% payment if the Post Office goes ahead with its plans to restructure job grades, it will now be paid to everyone.

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Downtime

by Chad



If you are wondering why these ladies look so ecstatic, it is because they have just taken a ride in a microprocessor-controlled lift. What can the microprocessor have done to them, I hear you ask. Only whisked them from one floor to the next in six seconds instead of seven, by controlling the acceleration and deceleration of the car. Scientifically, the lift at US Elevator in Spring Valley, California (where else?) has been beavering away to save microseconds off the time taken to do the job by boring old relays. I am sure they are thrilled to see such appreciation of their efforts.

Priority commitment

YOU may remember my story (March 1) about the campaign to save the Lyceum Club in Liverpool in order to keep up local amenities so that microelectronics firms will come to the area. Now I am happy to report not one but two victories for those aiming to make Liverpool a Home Fit for the Heroes of the computer revolution.

Not only has the Lyceum been saved, by the personal intervention of the Environment Secretary, but Birkenhead Priory has

been classified as an ancient monument, qualifying it for a permanent custodian and government grants.

The Priory is a 12th century ruin in the middle of Birkenhead docks. So, if you get a job with GEC-Fairchild at nearby Neston, you will be able to pop over in your lunch hour for some restful meditation, accompanied by clanking cranes, rumbling lorries, and distant foghorns. I shouldn't be surprised if you were inspired to start writing code in rhyming couplets.

QL, QI, Q1 or qhat?

NEB watchers among you will have been puzzled by the stories in the daily papers about the Board's latest hands-across-the-sea venture. In the Daily Telegraph the US company is called QL, in the Guardian it is QI, and in the Financial Times it is Q1.

The FT was, true to form, right. I expect to see the National Graphical Association picketing the company, with placards saying "Unfair to composers," but I fear they will be hucking the tide. Ridiculous company names are springing up everywhere, usually unpronounceable like QYX.

I THINK I can provide an explanation for one of the boo-boos in this week's 1984 place (page 2). Remembering the main ingredient in advanced lubricants, I presume that what the musical scribe meant was a slither of silicone.

LETTERS TO THE EDITOR

Attention all OEM manufacturers

AS computer service manager of a large group of companies, I find it necessary to contact manufacturers of equipment quite frequently. Accepting that there are acute staff shortages in the industry, I still find it difficult to accept the normal pattern of my business calls, and draw to the attention of the managing directors of OEMs the following criticisms.

1. The telephone number listed for your company in various trade and technical publications is almost guaranteed to be the wrong one.

2. Upon ringing the correct number with a sales query, your switchboard operator will in most cases direct the call to the wrong person.

3. When ringing with a general query about one of your

company's products, there are usually no technical/sales people in the office at that time. A secretary (often in her own words "only a temp") usually manages to completely misconstrue my inquiry with a result that the wrong person returns my call.

4. Of phone calls made between 12.00 and 2.30pm, 95% result in the person who deals with my area/problem/type of company being at lunch.

5. Many of your sales team are newly recruited and seem to be totally unfamiliar with the products they are selling, far less with performance vis-à-vis competitors' products.

6. Uninitiated sales calls from young ladies obviously reading from a prepared cue-card are all very well providing that the

poor DP manager doesn't actually ask any technical questions in reply. This tends to cause waves of panic followed by irritation from the caller. (Incidentally, I find that some of the computer press tend to employ these people, usually trying to get last week's advertiser in "Magazine X" to advertise this week in their magazine, even although the response to the initial advert has not yet been assessed).

In short; MDs, man your offices at all times with competent personnel. Yours is a highly competitive field and it could have been your company that I telephoned three times last month with a view to placing an order of over £20,000 and could not find a suitably qualified person to deal with. That order is now placed with one of your competitors, who had someone in the office who was able to help.

ERIC DIXEY

London

Cloak for extremists

AS the former, and founder, secretary of the Institute of Data Processing, I was delighted to read in Computerweekly (CW, August 2), of its current progress under the IDPM banner, and justifiably gratified at your unsolicited testimonial to the "digitized image" of IDP.

Unfortunately, on the same page you had a Focus article on an IDPM meeting addressed by a representative of the National Council for Civil Liberties on the subject of privacy.

I can think of nothing more calculated to undermine the digitized image of a professional body than to link its activities with those of an organization whose apparently innocuous title appears on frequent occasions to be merely a cloak for extreme left-wing anti-establishment activities.

DEREK BRADLEY

Croydon, Surrey

Flexible working and Pascal

I AM following Dr Bishop's series, Introduction to Pascal, with interest, but hope that at some stage she will point out that her example of a program for flexible working hours is not a practical one (Part 5, CW, July 26).

Employees working flexibly need to see their current time situations vis-à-vis the time they ought to have put in, in order to plan their day-by-day attendance and activities. Their colleagues and management need an indication of their presence or absence, and management needs a situation report at the end of each accounting period to ascertain that each employee has fulfilled his or her contractual obligation.

There are a number of equipment manufacturers, including ourselves, offering simple mechanical, electrical and electronic solutions to the problem of providing the right information for flexible working hours.

I appreciate that Dr Bishop's series is as yet unfinished but so far her system does not seem capable of providing either current time or presence information, and even so the hardware costs would seem to be far higher than those of most of the proprietary systems.

In conclusion I feel that Dr Bishop has made the common error of adopting a corrupted this company's registered trademark "Flextime" to apply to a program which has little or nothing to do with flexible working hours.

G. REINELT

Hewlett Flextime Ltd, Waltham Cross, Hertts.

THE EDITOR welcomes letters commenting on subjects published in Computer Weekly, on an original topic. All letters must be accompanied by the writer's name and address, not necessarily for publication.

Cluff and the IDPM

I REFER to your heading, "Move to make Cluff's IDPM job full-time" (CW, July 26). Also to Computerview (CW, August 2), and the report of our annual meeting in the same issue headed "IDPM wants 12 top firms to sponsor a full-time secretary-general."

The Institute is, of course, appreciative of the interest taken by Computer Weekly and recognises the advantages of your coverage. Nevertheless, some wrong impressions have been given which are to the disadvantage of our existing part-time secretary-general, Ted Cluff.

By the very nature of our organisation, we always plan well ahead and decisions are made when facts are available on which to base those decisions. We do not react to situations as and when they occur, because this is the antithesis of proper planning and good management.

The question of a full-time secretary-general has been under constant review, and we are very conscious of the advantages this will bring. But, until the administration is fully staffed and trained to deal with subscriptions, examinations, communications with members etc, we would have our priorities wrong in appointing a full-time

secretary-general while we had the part-time services of Ted Cluff.

Unfortunately, due to the success which you have so generously reported, the commitment by Ted Cluff to 20 hours each week when the Institute opened its offices just one year ago has not been enough.

The demands of the job have forced him to extend this to 30 hours a week — a situation which obviously cannot continue since he has a full-time job elsewhere. He also has a wife and two young children who deserve to see him occasionally.

Discussions have taken place on the urgent need to remedy this situation and forecasts of our income growth will be before our council when it meets on September 4. I must emphasise, therefore, that no formal decision has been taken to appoint a full-time secretary-general and full-time discussions have taken place with Ted Cluff with a view to him being offered the post.

I hope you will make this clear to your readers, as any other impression placed upon the public position with this present employer, a poor reward for his hard work.

NEWELL TAYLOR

Chairman IDPM

We may beat IBM to the punch on H-series—AMDAHL

IF IBM delays the announcement of the H-series much further, Amdahl may force the company's hand by launching its own next generation of mainframes first.

So says Dr Gene Amdahl in the first full interview he has given since announcing his retirement as chairman last week.

"We are just waiting for the H-series to come out. We want our opportunity to respond. And if it doesn't come out pretty soon, maybe we'll decide to beat them to the punch."

There are growing feelings that the H-series will be very much less of a blockbuster than originally expected, with the first two models little more than an enhanced and a stripped down version of the 3033 respectively, offering better price-performance.

Amdahl's views seem to reflect this belief. "I think IBM will move things around within a system, but they will introduce as little real change as they have to. IBM's principal way of fighting will have to be to get more and more complexity, and to have any changes cloaked in as much mystery as possible."

"In order to be ahead of IBM during the next generation you have to do things in a more efficient way than IBM does. That may sound impossible, but new invention is the key."

Innovation has more to offer than enormous human resources because just to do

something in a highly economical efficient manner requires that everything be interrelated in a very small number of minds. Preferably one."

Amdahl's big machines are air-cooled, whereas IBM's 3033, 3032 and 370/168 are all water-cooled. Amdahl expects no change.

"IBM has educated its customers to believe that water cooling is the wave of the future, that it's better than air cooling. Clearly it is if you can't cool your machine by air! But there's no technical reason for it. I expect IBM to continue water cooling for the foreseeable future, at least for the next decade, and probably to the end of the century."

Looking back Amdahl believes the achievements and the impact of his company have been underestimated, both by customers and by stock analysts.

"The customer may not remember that prices were being raised at the time we arrived. They were raised for almost the first six months we were on the scene. It wasn't until we were a phenomenon to be taken quite seriously that prices no longer rose. It wasn't until we were taken very seriously that they dropped again. Until then, IBM had no

competition. As for the securities analysts I really don't have the vaguest idea what kind of success would be necessary for us to be regarded as successful."

For the immediate future, Amdahl expects that the strong demand for leases will continue, and that his company's fourth quarter will bring a large number of installations, but not very many outright sales.

"But these problems have a narrow impact. We see it in the stock price but not among customers, and not at the bank."

As for his own future, Amdahl rejects the idea of teaching, saying he is not the professorial type.

"I intend to be working on future generations of computers and I'll continue doing that for the rest of my life."

"I intend to work in support of Amdahl Corp's response to the H, and anything which might precede it. Other than the direct things I do for the company, the other things I do will be independent."

'Design of workplace key to ending VDU strain'

THE importance of design and installation factors of VDUs, such as layout, character size, and ambient lighting, as opposed to inherent dangers to eyesight, is emphasised in what promises to be a definitive report on VDU workplaces, just published by IFRA, the International Research Association for Newspaper Technology.

The authors are Ahmet Cakir, a lighting technologist from the Technical University of Berlin, David Hart, research director of IFRA, and Tom Stewart, an ergonomist currently with Butler Cox and Partners.

They believe that VDUs should not cause eye strain or fatigue if all the factors — such as radiation levels from the

screen, character construction, positioning of the screen, keyboard, source copy, chair, and the surrounding light — are all properly controlled.

The 321 page report goes into all these issues in exhaustive detail, devoting chapters to the technology of VDUs, the physics and physiology of vision, ergonomic requirements for VDUs and for their workplaces, and health and safety matters.

A few pages are devoted to psychological issues such as mental workload, job satisfaction, alienation and machine control, time pressure and the need for rest.

The report emphasises the need to consider all these latter factors but comes up with few

surprises in the form of new ways of dealing with them.

Detailed checklists are provided for analysing all the factors involved in purchasing VDUs and setting up workplaces. Diagrams of recommended layouts are provided, together with examples of bad arrangements that are commonly found.

Although aimed at newspaper applications, the report is careful to keep its recommendations general enough for any computer installation.

The report entitled "The VDU manual," costs 40 Deutschmarks (about £10) plus postage and is available from: D. J. Hart, Inca-File Research Association, Washingtonplatz 1,

D-6100, Darmstadt, West Germany.

At the same time, a study entitled "CRT graphics terminals and systems markets 1978-1983" has been published by Venture Development Corp of Wellesley, Massachusetts, which predicts that this market will grow from \$275 million in 1978 to \$1.1 billion in 1983.

VDC emphasises the growing importance of the fact that VDU users are no longer computer professionals in the main, but designers, draftsmen, technicians, artists and managers are increasingly using screens, and increasingly are the people who choose what equipment to buy. A wide range of new markets for screens is listed.

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OP SPOT

Many installations fail to recognise, and therefore waste the vast wealth of experience that exists within the operations fraternity. In this article BARRY

JOHNSON, operations manager at Univac in West London, shows how the operator's role can be broadened to benefit both staff and site.

Set your sights higher to achieve career progress

JUST how far can an operations department's responsibilities be extended? How can increased responsibilities be implemented to provide meaningful challenges in an operator's career progression? How much can an operations manager commit himself to while remaining fully confident his department will meet deadlines and achieve set goals? Why ask the questions at all of "just an operations group"?

Career progression probably was not discussed (apart from promotion to trainee programmer - wow!) as operations was not regarded as a career. It was the back-door entry to the computer industry.

However, present-day operating should allow for the fact that there are a large number of very intelligent, skilled people who enjoy computer operating but do not enjoy mundane, boring tasks.

There are a large number of areas within which an operations group can play an important, relevant part but may not be given the opportunity to do so.

They should be involved in the testing of new software.

How many times has a new software release been given to the operations group to initialise the system, only for it to be found that after a few hours or days the software has bugs and has to be rejected? Naturally

software people tend to test the newly integrated code with not too much emphasis on related, unchanged code.

It is also fairly common for software people to be offered overnight test time, and consequently what precious little prime shift test time is used is usually deemed enough. Have the operations group involved, and provided they are passing enough meaningful feedback to the software people on any errors encountered, you should find that test time can be scheduled at any time during shift cover and a reasonable rapport will exist between software and operations personnel.

Tests I have seen suggested and run by operations include hitting the wrong keys on the console, powering off a disc drive during access, putting up magnetic tapes with the oxide scraped off, taking controllers offline during use. All tests within the boundaries of the software operation, but with the human and hardware errors forcibly introduced.

2. File maintenance should be under the control of the operations group. I see no reason why operators cannot be given the overall responsibility of file allocation and security. The reasons I have heard for keeping control out of operations is that certain users may have requests for large file space rejected. It also usually follows that the user group responsible for file maintenance has the largest allocation. Operations would be able to act as an impartial file implementation group and able to offer a file service throughout shift cover.

3. Training should be given more emphasis. How many firms are content with sending operators away to training courses and then saying "Do as you've been trained"?

Unless a lecturer/tutor/instructor has prepared a course based on each individual's background and the firm's applications, no course can be completely relevant to all its students. Such a cross-section of operators would attend that it would be impossible. Here I refer to actual operating courses, not supervisory, administrative or computer appreciation courses.

Why not send one or two experienced operators on an "advanced" course and then give them the total responsibility for formulating and supervising the implementation of the operators' training programme? Note - "training programme", not just training course. This would give the necessary technical expertise tailored to each site's requirements, and additional responsibilities to the more senior operations personnel.

4. Shift leaders should be given the freedom to administer their own shift personnel, even as far as giving periodic performance appraisals, salary reviews and hiring interviews.

Naturally the manager has overall accountability, but the shift leader is more than capable of performing such administrative duties. Nothing is more



Where it all happens - a typical operating environment.

meaningless than an operator receiving a performance review from an operations manager who has probably never seen the individual operate and who has to assess his capabilities, outline his future training and decide on his future career.

5. Operations personnel should be invited to provide input to any projects or activities which affect them.

The manager, I feel, should ask the operators what should be done if they were "in his shoes". In the event of ideas being rejected then I feel this should be justified.

Let the justification be known, and this will encourage further ideas.

These are just a few areas where operators can be given extra responsibilities without just increasing the online operating.

Five years ago operators were probably happy to have their online duties increased. Now,

however, if they have been in operations for most of their career, they need to be shown opportunities within the group which can enhance their chances of career progression at a later date.

I cannot see an operations career for all operations personnel but I do get annoyed when operators express their long or even short term aims as lying within programming (usually as a trainee). I by no means wish to decry the software side of the computer industry (having worked in it myself) but I wish people would stop regarding the natural next step for a senior operator as programming.

With more emphasis on each individual within the group, especially in the areas of hardware knowledge, software appreciation and administrative training, the end result would be a senior operator/shift leader "over-qualified" for a trainee programmer position.

I have known people move from an operations group with the necessary specialised training behind them into executive support, operations support, operations consultancy, acceptance test specification, engineering, applications support, pre-sales support, and operations management.

I would therefore suggest to operators: Set your sights higher than trainee positions and look for areas in which your group may play an important role. Management may tend to be a little wary initially, probably due to lack of confidence. I feel, however, that if operators are looking for worthwhile careers then they will make every effort to accept and excel in areas of additional responsibility and accountability.

The manager should then be in a position to determine the strengths of his department (and hopefully identify and work on its weaknesses) and be able to define for it meaningful objectives and goals.

Peripherals exhibition set fair for September

PACE - The Peripherals at the Centre Exhibition - opens its doors on 11th September on what promises to be the best display of peripheral hardware this year.

exhibiting at PACE under its newly formed Peripheral Division.

neighbour, Wilkes Computing of Bristol, will be showing off the Datamedia 80/1 video terminal.

The three day exhibition at the Cunard International Hotel, Hammersmith is attracting interest from a wide variety of buyers and indicates just how much a part of modern business this equipment has become.

LATEST DEVELOPMENTS

An opportunity to see the latest in peripheral equipment:-

Newbury Laboratories has supplemented its VDU's with a new printer, and Sigma Electronics will be explaining their latest Advanced Raster Graphics Systems on Stand 31.

A new double density floppy disk system will be exhibited by Data Design Techniques, and M62, the new code conversion reader punch, unit comes from Mideltron. For those looking for a digital tape transport system, SE Labs are showing their EM1 8800 Superdrive on stand 48.

FREE TICKETS

Specifiers and buyers of peripheral equipment can save themselves the £5 registration fee by applying for a complimentary ticket. See the coupon at the bottom of the page.

UP-TO-DATE

Getting the right peripheral hardware requires keeping up-to-date with the latest developments, whether the decision is made by a small business or a multinational. This has been proved by the requests for PACE tickets which have come from all sectors of industry. Buyers are anxious not to miss the opportunity of comparing products and picking the brains of the experts.

the other aspects of the computer industry.

NEW AT PACE

An exhibition such as PACE provides the ideal opportunity to announce a new company or unveil new products.

Among the exhibitors who may be new to the U.K. peripheral buyers are Epson America, currently setting up in the U.K.; PerSci, manufacturers of floppy disc drives and controllers, and Colombia Data Products, both being introduced through Datatype Systems. Century Data, OEM supplier of hard disc drives, was formerly CalComp's Memory Products division, and Pericom Data Systems will be

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Top names on show

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Bensons	Mideltron
Calcomp	Newbury Laboratories
Century Data	Nicolet Instruments
CMC	Penny & Giles
Columbia	Pericom
Data Design Techniques	Perkin Elmer
Data Systems Design	PerSci
Data Type Systems	Plessey
Data Type Terminals	Qume
DEC	Ramtek
DRG Business Machines	SE Labs (EMI)
DSI	Summagraphics
Digi Data	Tally
Electrographic	Techex
Epson	Teleprinter Equipment
General Audio and Data Communications	Teletype
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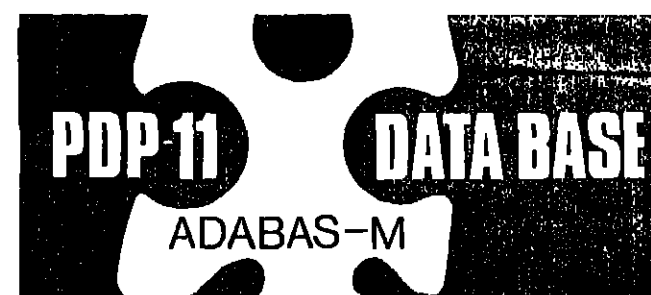
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PEOPLE AND EVENTS

Prime million dollar super salesman

A SALES executive with Prime Computer, John Woods, has joined the ranks of the "Super-salesmen", by becoming the first person in Prime's UK operation to win a million dollars' worth of orders in one month.

Woods, 33, has been a sales executive for Prime for two years, and the million dollars comprises four orders placed by private companies in the UK during June of this year.

His success follows that of GEC salesman Peter Lane, who last year earned £102,000 by working 16 hours a day for the company. Lane, who described himself as "almost a workaholic", earned almost double the pay of GEC managing director Sir Arnold Wainstock.



Woods, 33, earned almost double the pay of GEC managing director Sir Arnold Wainstock.

Honeywell appointments

KEY management appointments in the customer services division of Honeywell Information Systems include Les Lomax and Alex Russell.

Lomax becomes director for the Northern region, based at Honeywell's regional headquarters in Cheadle Hulme, Cheshire.

Since joining Honeywell 14 years ago, he has held the positions of systems manager, account manager and marketing manager.

Formerly divisional systems manager of Honeywell's data processing division, Russell has become director of product support operations.

Edward Keating has been appointed to the board of directors of the International Micrographic Congress. He is president of Datagraphix, where he has worked since 1971. The 11th annual IMC conference is to be held in Paris this year from September 24-27.

Alan Dobson, previously UK technical support manager for Redifon Computers, has now been appointed international services manager, responsible for international engineering operations and international UK technical support functions. Manager of systems engineering operations is Keith Banks, formerly customer services manager. He will assume responsibility in the UK, Eastern Europe, Eire, the Middle East, Far East and India.

George Waddington has become sales manager for software products with Systems Designers. He previously spent five years in marketing with IBM.



Trowbridge



Symmonds



Ward



Lakeland



Coombes



Tavernier



Kingsbury

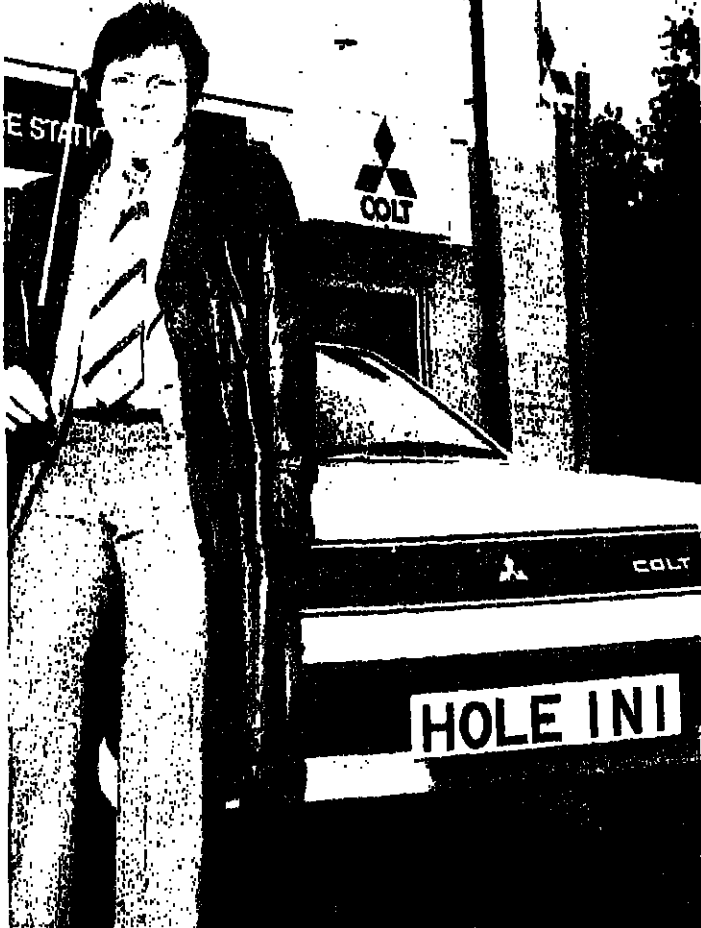


Harper

Manchester launch

A NEW Manchester-based company has been launched by Northern Software Consultants, the UK manufacturers of application software. The company, NSC Computers, aims to provide a solution to management information problems, such as accounting, order processing and stock control. This will be based on a complete computer system, small enough to fit on an office desk. Marketing director of the company is Paul Lakeland.

Tony Ward has joined Computer Machinery Company as territory manager for the firm's new business marketing branch. He was previously a senior salesman with Olivetti.



ONLOOKERS at Stannem Cricket Club's annual fête were amazed when David Birch, who has only one arm, won a golf competition to hit a hole in one. The competition, an annual feature of the fête, has never been won before. David is branch engineering manager for Data General in Bristol, and lost his left arm in a car accident when he was five years old.

He is pictured here with his prize, a £4,000 Colt car with the registration plate HOLE IN 1. David put his success down to luck, saying, "I've only played golf three times in the last two years."

Marconi award

NOMINATIONS are invited for the sixth annual Marconi International Fellowship, which will be presented in 1980.

The Fellowship of a £25,000 grant, which commemorates Guglielmo Marconi's contribution to science, engineering and technology, is awarded to someone who has made an outstanding contribution to the improvement of communications in developing countries.

Nominations should be sent before October 1 to the Marconi International Fellowship, Aspen Institute of Humanist Studies, 1919 Fourteenth Street, No. 811, Boulder, Colorado, 80302, US.

Ken Rothmuller has become project manager for Apple Computer's professional systems group. His most recent position was that of manager of database software for Hewlett-Packard's 3000 computer series.

Allen Butcher has joined General Computer Systems (UK) as territory manager for Northern London, Northern Home Counties and East Anglia. Ted Vivian has also been appointed to head Datatext sales in South London and the South and West of England. Both were previously salesmen with Rank Xerox.

Ian Townsend has become personnel manager for Scicon Consultancy International. He was previously senior personnel officer for British Airways.

Wolf Loescher has been named by Motorola Semiconductor Europe to head a recently expanded MOS facility in Scotland. Loescher was formerly CMOS operations manager in Austin, Doug Dunn, who continues as head of the company's NMOS operations in Europe has been appointed assistant general manager at East Kilbride.

Sara Tavernier has become a consultant with John Goldsmith, on her return from New York, where she has worked in computer recruitment for two years for both Applied Computing, and Software and Hudson Computer. Responsible for recruiting temporary contract computer personnel are Graham Brownlie and Ray Thomson. Brownlie was formerly data processing manager with Tandem (New Zealand), and Ray Thomson was in charge of production control with an international software house.

Alan Dobson has been appointed international services manager for Redifon Computers. He was previously UK technical support manager for the company.

Soccer results

Division 1
Gryphon 5, Datascano 0

Division 2
Comshare 1, Datascan City 4

Division 3
CJB 0, UCSL 6

DIARY

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SEPTEMBER 6
The future of real time languages in process control. BCS Process Control specialist group. Reading University, Reading, 10.00.

SEPTEMBER 10
Database systems and information retrieval. BCS Information Retrieval group. Computer Laboratory, Cambridge University, Cambridge.

SEPTEMBER 11
Performance management. IDPM West London and Oxford branch. Tekdata House, Hatfield Road, Slough, 18.30.

Bar-coding techniques in stock control. IDPM Hull Crest Hotel, Ferryby High Road, North Ferryby, Hull, 19.15.

SEPTEMBER 12-14
Shape recognition and artificial intelligence. AFTEC and IRIA. Toulouse, France.

SEPTEMBER 13
Optimal control of large scale systems. IEEE. Savoy Place, London WC2. 09.45.

SEPTEMBER 17
An afternoon with James Martin. IBM CUA and Butler Cox Associates. The Grosvenor House Hotel, Park Lane, London.

SEPTEMBER 17-21
Computer science and law. Course CREST and SRC. Swansea University, Swansea. Tel: 0792 25878 ext 502.

SEPTEMBER 26
Aspects of a computer controlled digital telephone exchange — the Plessey PDX. IETE. Granville College, Sheffield. 19.00.

SEPTEMBER 28
Introduction to microprocessors. IETE. Lelaure Centre, Stevenage, 19.30.

By Judith Morris

MICRO NEWS

East Germany prepares major thrust into chips

THE production earlier this year of a Control Data report on Russian microcircuit developments (CW, April 5), coupled with speculation that some of the design work for these chips had been carried out in East Germany, suggests that the East Germans are planning a major thrust in the technology.

Decrees passed by the sixth meeting of the Central Committee of the Socialist Unity Party of Germany demonstrated the importance placed by the East German government on microelectronics technology and its application, and indicated the need for the government to protect its microelectronics industry.

It now seems probable that considerable funds are being committed to developments in microelectronics by the East Germans, though since the end of the industry is State-owned, it is difficult to isolate an amount.

Some of this money is almost certainly being committed to microelectronics production technology. A recent issue of the Jena Review, an English-language publication from optics manufacturer Carl Zeiss Jena, carries several articles on

electron beam and X-ray lithographic systems. These seem capable of producing circuits with geometries well inside the 3 micron range, and therefore well into the VLSI category.

Industry sources are now speculating on what uses the East Germans will put this production capability to, bearing in mind that there is little in the way of a "consumer" market for microelectronic products in the country.

It would appear that the major development effort is to be found in bipolar devices, particularly ECL, rather than in MOS products. Here, two main product groups are being suggested.

The first is low-end 4-bit microcontrollers aimed specifically at applications in the industrial control market.

The second is much more advanced, and considerably more interesting. This is fast and complex bit-slice devices intended for large computer systems.

The East German computer company, Robotron, already has a mainframe equivalent to IBM's 370/148. This is known as the ES-1055 (CW, March 16). It is now being suggested that the

IEEE S-100 bus draft standard, and for a price of £695 incorporates a Z80 microprocessor, power supply, case, hardware front panel and a 20-slot motherboard.

Apart from the Z80 card, all the other slots are vacant, thus allowing users to configure specific systems from the wide range of S-100-compatible boards that are available.

The Pascal compiler is designed for Z80-based systems, producing Z80 macro code rather than UCSD P-code. This is re-entrant, and can be put into ROM if required. It needs a 50K-byte Z80-based system to run, and can be supplied in either CP/M or K2 operating system versions.

The DPS-1 is built to the new

By Martin Banks

London software shop

ONE of the best-known US suppliers of microcomputer software, Lifeboat Associates, is setting up shop in London under its trademark, The Software Supermarket.

At 32 Neal Street, London, WC2, the company will be bringing to this country an extensive range of software products running under the popular CP/M operating system. These are suitable for most makes of microcomputer system.

In addition, Lifeboat will be offering products specifically written for, or tailored for, the UK market.

Rothwell introduces small business system

ANOTHER entrant in the race to capture the small business computer market has been introduced into the UK by Rothwell Data Systems of Aldershot.

This one is the Billings Microsystem, manufactured by the Billings Computer Corp of Provo, Utah, US.

The Z80-based system costing about £4,500 is an integral desktop unit incorporating a total of 64K bytes of RAM, dual mini floppy disc drives offering 300K bytes, 12-inch video display and three keyboards: query, numeric, and dedicated function.

Two RS232C serial ports and an 8-bit parallel printer port are also provided as standard.

An alternative configuration of the system provides a total of 2 Mbytes of secondary storage by using an external dual floppy disc drive.

A number of applications software packages are already available for the Microsystem, which can run Fortran, Cobol and extended Basic high-level languages. The system utilities available include a text editor, assembler, overlay linker, and user library routines.

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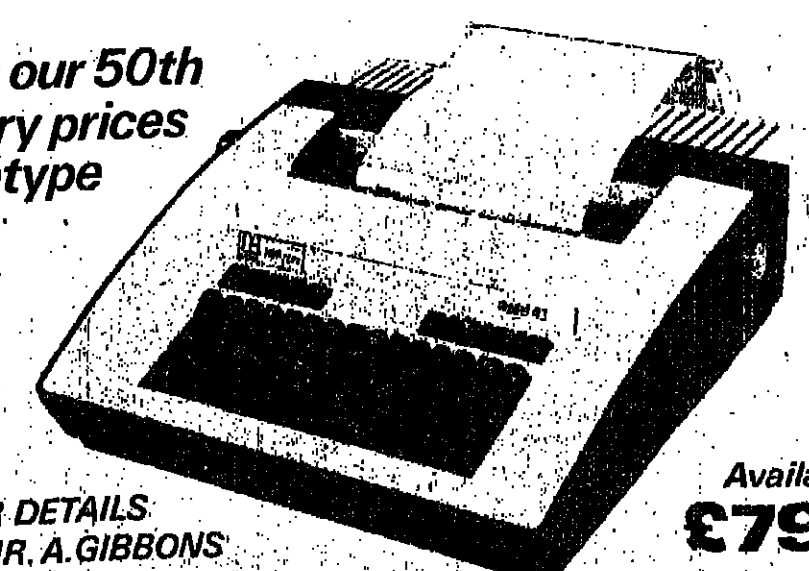
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Die Angebote sind bis Dienstag, 25. September 1979, 8.45 Uhr, in verschlossenen Umschlägen mit der Aufschrift „Angebot über Softwareprodukte Informationssystem AKH, der Firma“ abzugeben.

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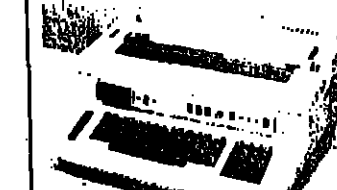
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INTRODUCTION TO PASCAL

Getting full use from parameters

Part 9

There are three remaining features of Pascal to discuss: parameters, input-output and the GOTO statement.

Protection again

Throughout this series, the ways in which Pascal guards against silly mistakes have been emphasised. Some of these features are symbolic constants, records, subranges and symbolic values. A fourth facility, which is strangely not present in many common languages today, is the value parameter. When a value parameter is passed to a procedure, the procedure makes a local copy of it. It is then free to use the local copy just like a local variable. The protection comes in with the realisation that the original variable cannot and will not be altered in any way. There is also another advantage; the user need not make his own local copies before using the value, which saves space and time.

When changes are necessary

Often it is vital that a procedure does alter the value of some of its parameters. The classic case is in reading in. For example, in Part 6, we declared

```
PROCEDURE readtime (VAR thistime: time);
```

which read a time and put it into the actual variable passed as the parameter. Thistime is prefixed with the word VAR, indicating that the parameter was passed "by reference" and hence any changes made will vary the original. The counterpart of readtime is

```
PROCEDURE writetime (thistime: time);
```

which obviously does not alter the parameter which is, by default, declared "by value."

Unusual parameters

The third kind of parameter available in Pascal is the procedure or function. Most programmers, and even teachers of programming, are hard put to find a use for this feature, other than in numerical analysis. I have always found the following little procedure to be most useful in arranging output neatly.

```
PROCEDURE formatline (line: string; length: stringrange;
  PROCEDURE method);
```

The various methods that can be supplied are centre, rightjust, leftjust or asis. These are all procedures which will arrange the necessary tabbing. Formatline can be called by

```
formatline (heading, 40, centre);
formatline (subheading, 12, leftjust);
formatline ('PAGE 8', 6, rightjust);
```

Input

In Part 5, the use of read and readln was discussed and all along, the flag eof has been used as a means of detecting the end of a file. There is also another flag called eoln which will detect whether

the end of a line has been reached. This is often useful and sometimes necessary. In Pascal, a file that consists of characters is called a text file and it may be divided into lines. The lines may vary in length and are separated by line markers which manifest themselves as spaces. Let

```
ABCD$
EFGHI$
KLMNOPQRST$
```

be lines of a file, where \$ is the line marker. If we want to copy these lines onto one single output line

```
REPEAT
  read(ch); write(ch)
UNTIL eof;
```

will produce

```
ABCD EFGHIJ KLMNOPQRST
```

because the line markers appear as spaces. Therefore after each write there must be a query

```
IF eoln THEN readln
```

to get rid of it.

Output

Corresponding to read and readln there are write and writeln. Their action depends on the type of the file and on the type of the items. A write to a storage file such as Weekly file or Statistics is like the unformatted write in Fortran and the PUT in PL/I. If the file is declared as text (or FILE OF char) then all items are converted to characters first, as in PL/I's PUT EDIT. A nice feature of this is that each item is written in a sensible number of columns automatically, such as

```
characters 1 column
integers 10 columns
reals 16 columns
```

This can be varied by following the item with a field width. For example, if I is 173 then

```
writeln (I, I4, I:1);
```

will print out

```
----- 173 - 173 - 173
```

where - indicates a space. If the field width is too small, it is expanded, as in the last case. The field width can also be used to skip a number of spaces, as in the underline procedure's

```
writespace: (nb);
```

At the end of a line, write in must be issued.

The harmful(?) GOTO

Many thousands of words have been written about this four letter word and its dreadful influence on structured programming. Languages with good conditional looping facilities render explicit jumping virtually unnecessary. Some would argue that the GOTO should be abolished altogether. Even though it does



by Dr Judy Bishop

In the ninth of her 10-part series, the Addressograph 6500, Dr Judy Bishop discusses the various uses for parameters, input/output and the controversial GOTO statement.

Dr Bishop is a lecturer in computer science at Witwatersrand University in South Africa and first became acquainted with Pascal when she was researching her PhD at Southampton University.

have its uses, particularly in jumping out of the middle of a loop on an unexpected condition or error, it is probably preferable to write such loops using state variables, as described in Part 7. One author has described the GOTO as being "a statement in greater need of comments" which should put most people off.

Dialects and portability

These days, increasing emphasis is being placed on standardising languages and thereby enhancing the portability of programs. Because of the way they developed and proliferated, the older languages will always exist in local dialects despite all the efforts of countless standards committees. Pascal has a better chance as it was forewarned of this danger and entered the world armed with

- A precise and short Report
- A concise yet helpful user manual
- A portable compiler kit.

The result is very few variations from implementation to implementation. Dialects do exist, mainly because of restrictions or extensions, rather than changes. As an example, I took 4,000 lines of programs from an ICL 1906A in the UK to an IBM 370/158 in South Africa and had one syntax error (an extension which had a different form) and two execution errors (due to different character sets supported by the two machines), before the programs were running smoothly.

Switch-on standards

A novel idea to aid portability is a compiler switch which when activated flags all non-standard constructs with a warning. This before exporting a program to another machine, it should be run with the standard switch on and this listing sent with the program. It is not necessary to take out every non-standard feature because the impacting machine might well support them.

What is the standard?

In November, 1978, Tony Addyman from Manchester submitted the draft proposal for Standard Pascal to the British Standards Institute for processing. In due course, this will be available for public comment and will also be circulated to ISO member bodies. The line taken by the document follows the resolution made by ISO Pascal users at the Southampton Symposium in April 1977, that the original Report should be accepted in essence, with certain clarifications and tightening up of semantics. The importance of this decision is that no implementation or text book is rendered out-of-date. The result is that Pascal is not only standard - it is stable.

Wirth's Working Group

Working in conjunction with Addyman, a group of 11 key implementers headed by Wirth has sifted through all the proposed extensions to the language and will publish a very short list of "conventionalised extensions" shortly. These will not be part of Standard Pascal, but a guide to the form an extension should take, if it is felt to be essential. The list includes the much requested variable bound array parameters and implements intended to put those into their compilers should first check with Pascal News for details of how to do it.

As a matter of interest, the composition of this 11-man working group (twelve if Pascal is not governed by one or other of the usual Northern Hemisphere power groups). The country with the most members was Australia - three.

NEXT WEEK: Part 10. The burning question: Should I use Pascal?

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Electronic embosser with mini back-up

ADDRESSOGRAPH Multigraph has launched two new systems, the Addressograph 6500 electronic embosser, and the Addressograph 6600, which is an embosser with mini-computer power. The 6500 model accommodates most standard card styles, sizes and

shapes and has an output potential of 100 plates or cards per hour. There is a buffer memory of 40 characters and character drums for the 6500 can be supplied in 64 or 82 character versions, in various standard letter and numerical fonts.



The 6600 with extended keyboard.

In addition to the features of the 6500, the 6600 (pictured left) has a keyboard extended with 10 special function keys, eight mode indicators and four memories, a 256 character buffer and three separate 256 character data stores. It has a speed potential of 200 cards per hour, and can be equipped with a video screen to display data in buffer and memory. The 6600 could also be connected to a computer to act as an online terminal.

Addressograph-Multigraph Ltd (CW), Maylands Avenue, Hemel Hempstead HP2 7ET. Tel: 0442 42251.

Power supply unit

THE power to protect the contents of computer memory in case of mains failures is provided by a battery back-up unit from Dicon Electronics. It is designed for use with the Digital Equipment LSI-11 and PDP-11/03 processors.

The unit, 3 1/2 inches high, has two 6 volt 16 amp-hour rated batteries that are rechargeable, maintenance free and do not leak, plus a rectifier, charger, control circuit and relays, and DC-DC converters. Fifteen hours of emergency power can be generated by the back-up.

Dicon Electronics Ltd (CW), Bond Close, Kingsland Estate, Haringey, London. Tel: 0258 61551.

Digital colour pictures

THE Colorwrite C-4300 is a standard Optonics product that produces a high quality, high resolution colour film image from digital input data. The C-4300 can now be purchased with a dual light source which gives colour images and also high quality black and white.

The light source for colour image is a glow-cathode tube, modulated in such a way that its delivery through the optic path is never completely stopped.

Features of the Colorwrite system include gamma correction, selectable raster and aperture sizes, 32 reproducible density levels per primary colour, or 64 reproducible grey levels in black and white, each page or plot the frame is advanced automatically. The EP 340 can be operated either online or offline.

An optional feature that can be incorporated in a Ferranti Ceteq EP 340 microfilm plotter is a storage tube display.

Silenced convertor

MPL of Hayes has announced a silenced frequency convertor, which offers the Amulet user a packaged power system of 75 kilowatts for installation alongside the Audahl VDU. The power unit produces a 441 Hz output for the CPU and can be installed in the computer room.

The frequency convertor has a built-in power break for half a second and during this break it will deliver full output to the computer.

Manufacturing Processes (CW), Belvedere Works, Bolton Way, Hayes, Middx. Tel: 01-848 9871.

Alarm/calculator

A STOPWATCH and alarm timer have been incorporated in Casio's scientific calculator, the FX-6000. It can measure time lapse between events during a test or it can signal predetermined time intervals for observations to be made. As a stopwatch, it gives a choice of three operating modes and two alarm timing modes are possible, once-through or recycling.

It costs £35.95. Casio Electronics (CW), 28 Scrutton Street, London EC2. Tel: 01-377 9087.

Shredder

"AN electric waste paper basket" is how the Veritard Discreet has been described. It is the latest addition to Rexel's range of paper shredders, stands at a desk side, is small and ideally suited to a private office. Insertion of the document starts the action and the machine switches itself off after the paper has passed through the steel cutters. It measures 180 x 200 x 240 mm and costs about £130. Rexel (CW), Gatehouse Road, Aylesbury, Bucks. Tel: Aylesbury 81421.

Electrostatic plotter

A FASTER printing speed of 1,000 lpm, a resolution of 24 dots per inch, a dither and improved writing quality and a faster start up time are some of the features of the Versatec 1200A electrostatic printer plotter. It provides printout and graphics output from most computers. Optional software adds half tones and an optional controller allows hard copy production from up to eight display terminals.

A ramp toning fountain has been added to maintain toner contact with paper over long distances. A toner pump delivers more toner at a high pressure to the fountain, which shortens start up time to one second. Other features include a new toner formulation Type S, producing a significant increase in darkness and contrast.

Versatec (CW), 27/35 London Road, Newbury, Berkshire. Tel: 0635 42421.

High speed output

FERRANTI Ceteq Graphics has introduced the Model EP 340 computer plotter, designed for recording large volumes of graphic or alphanumeric computer output data at high speed.

Graphic data recording facilities include automatic line, arc and circle interpolation. Four different types of line can be recorded, each at any one of ten density levels.

Data can be recorded on 35 mm or 16 mm, perforated or unperforated roll film, or 105 mm microfiche. At the end of each page or plot the frame is advanced automatically. The EP 340 can be operated either online or offline.

An optional feature that can be incorporated in a Ferranti Ceteq EP 340 microfilm plotter is a storage tube display.

Anti-static mats

DELICATE equipment which may be upset or damaged by static built up can now be protected by a rigid floor mat designed to drain off excess static.

The Velostat mats, made by 3M, are available in three sizes and form a protective island around computers and electronically controlled office equipment. As personnel step on the electrically

Finished photocopies

A FINISHED photocopy every two seconds is one of the many facilities available with the latest copying system from Olivetti.

The Copia 2000 is the top of the range and is able to reproduce all types of original, including drawings and photocopies. It can automatically copy on both sides of the paper and will produce up to 99 copies at any one time.

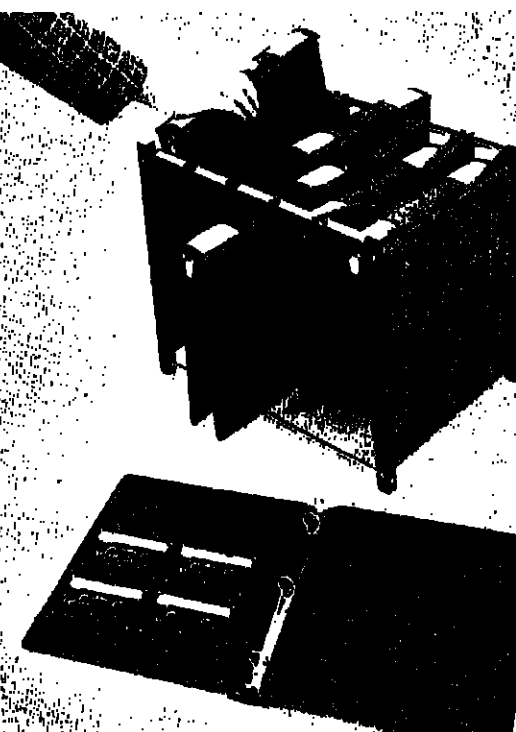
Paper can be collected by the Olivetti SRT 2000 sorter, which has 20 baskets and is able to automatically sort, separate and stack copies of multiple page documents.

British Olivetti Ltd (CW), 30 Berkeley Square, London W1. Tel: 01-629 8387.

Graphics terminal

THE Sigma T6800 graphics terminal is now available with a separate VDU scrolling facility. This option costs about £380 and allows simultaneous operation under program control, greatly speeding up the unit's interactive capability.

The T6800 is a high resolution



480 lpm thermal graphics printer

AN 80 character thermal graphics printer able to print at speeds of 480 full lines per minute, has been introduced by Hewlett-Packard.

Known as Model 9878A, it contains a standard ASCII 128 character set featuring both upper and lower case, and control characters. Seven additional character sets are also available for foreign languages. The user can create up to seven new characters at a time, by defining special dot patterns which are then stored in the printer's memory.

Peripheral holders

A RANGE of book-format holders for magnetic cards, floppy discs and mini-discs has been introduced by BDP (Word Processing). They are made of polycarbonate to provide protection during transport and against dust, debris, changes in temperature and humidity.

The card holders hold up to 50 cards in envelopes and up to 200 without, while the floppy and mini-disc holders each hold 10 discs. All the

holders have flexible fan tabs for easy reference, and the holders will accept hard copy manuscripts folded to envelope size.

The range also includes A4 folders with plastic sleeves designed to hold mini-discs or cards with relevant hard copy.

BDP (Word Processing) (CW), Hill House, Clock Tower Road, Isleworth, Middlesex.

Scientific calculator

A SLIMLINE scientific calculator with statistical functions and a constant memory feature has been introduced by Texas Instruments. It can retain data in its two memories, even when the calculator is switched off.

The TI-30 has 80 algebraic calculator functions, plus statistical operations. The calculator uses Texas Instruments AOS algebraic operating system and the ADP automatic switch-off feature. It has a large 8-digit liquid crystal display, full scientific notation and mantissa expansion capability.

The TI-30 includes 15 levels of parentheses and up to four pending operations. The APD feature shuts the calculator off after 15 minutes of non-use. Two years of normal operation are provided on a single set of batteries, and a

battery low indicator is also provided.

Texas Instruments Ltd (CW), European Consumer Division, Manton Lane, Bedford MK41 7PA. Tel: 0234 67466.

Brochure

A BROCHURE which describes the Kennedy Series 5300 Winchester fixed drive is available from Kennedy Company of California.

The drive, with one, three or five recording surfaces, has an unformatted storage capacity of up to 70 Mbytes, and uses modified-frequency modulation techniques with 3348 type modes.

Kennedy Company (CW), 540 West Woodbury Road, Altadena, California, USA, 91001.

Reader/punch

THE 6402 paper tape reader and punch has been announced by Pericom Data Terminals, as an addition to its range of micro based computer terminals.

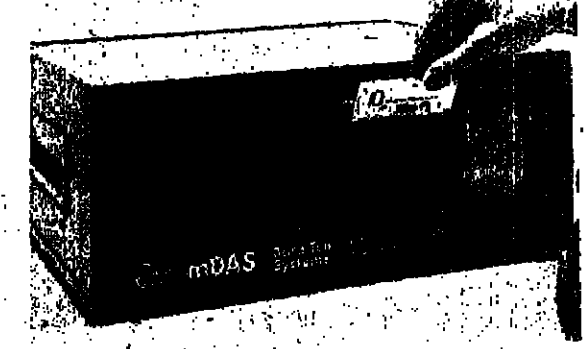
The 6401 paper tape station consists of a high speed reader and punch which can operate remotely, either stand alone or attached to keyboard send receive devices, such as printers and VDUs.

Buffering combined with X on or X off protocol enables the 150 cphs reader and 30 cphs punch to operate at a switch selectable baud rate from 75 to 9,600. Five to eight level codes are available and there are facilities for code conversion.

The microprocessor allows a large degree of flexibility in the execution of control codes to facilitate simple integration into existing systems.

The 6401 can be used in conjunction with printer terminals, to provide forms length select and vertical and horizontal tabulation facilities, allowing data compression to reduce expensive line costs. It is priced at £985.

Pericom Data Terminals (CW), 1-3 Burners Lane, Bick Farm, Milton Keynes, Bucks. Tel: Milton Keynes 584747.



Base Ten Systems' intelligent data logger.

Intelligent loggers

BASE Ten Systems has introduced two new models as additions to its range of portable intelligent data loggers.

They are equipped with cathode ray tube display and a numeric keypad to remove complicated switching procedures often necessary with conventional data loggers.

The two new products are the mDAS-OP, which is operator programmable via a prompting routine, and the mDAS-SP, which has its own prompting routine. Both are programmed to be developed in a high level language on the unit's integral microprocessor.

Base Ten Systems (CW), Unit 3, Lower Farnham Road, Aldershot, Hants. Tel: 0252 31281.

Wand

UNIVERSAL product codes which are printed on most food packages and other products sold in supermarkets can be read by NCR's new hand held wand scanner.

The NCR 7877 complements the current 'store scanner' which is already used at checkout stands. Both these scanners are used with the NCR 235/726 computerised checkout system and can be added to 255 per minute already installed.

NCR (CW), Marylebone Road, London NW1. Tel: 01-723 7076.

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Appointments

THE INDUSTRY NEWSPAPER FOR DP PROFESSIONALS

Appointments

COMPUTER WEEKLY

Classified Department, Dorset House, Stamford St, London SE1 1PU

Box Numbers: Should be addressed to the box number in the advertisement via Computer Weekly at the above address.

Classified Rates: £12.00 per line per week
 Series 7 = £11.00 13 = £10.00
 26 = £9.00 52 = £7.00

Copy Deadline: 5.30pm Monday prior Thursday publication date. Complete artwork up to 12 noon Tuesday. Advance off space reservation is advisable.

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If you have two years' IBM experience, this job will interest you. 2-shift system + company benefits, 20 days holiday. Twice yearly bonus. Sub canteen. Salary £4900-£5150 p.a. + O/T

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If you are at Senior Operator level on ICL 1900/2900 and looking for something different, then contact me for more details of an interesting position. Salary £5000 p.a. + negotiable.

ICL 2904 DOVER

This company will be updating to possibly the first 2905 site in the country very shortly. They are now looking for three Shift Leaders with 2 years + 1900/2900 experience. Salary £5000 negotiable.

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If you have a minimum of 2½ years' experience and contracting is your business, then Jane Asbury, June Mogg or Sue Smyth can always give you advice and an up-to-date list of immediate contracts or details of those still in the pipeline.

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4-month contract. Immediate start. For further details ring Sue Smyth or Jane Asbury.

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Various immediate contracts. Excellent rates. Ring Jane Asbury or Sue Smyth for details.

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IBM COBOL + TSO

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If you are available soon, please contact Neil, Suzy or Richard.

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IBM PROGRAMMERS

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3032 IMS

REAL-TIME SYSTEMS

NORTH SURREY

TO £6500

To join project teams developing a comprehensive stock distribution system, four IBM PROGRAMMERS are required with a minimum of eighteen months' programming experience (any language). The system has been designed as an IMS database application incorporating various real-time transactions to be controlled by users at a number of depots throughout the UK. All program development is on-line giving a rapid turn-round for testing. Structured programming techniques have been successfully introduced and programmers will certainly be on development projects for the majority of their time.

Persons joining now can expect a very interesting future using the latest IBM hardware/software and will be encouraged to progress their careers within the department as the Company follows a policy of internal promotion for the more senior positions. Full database and/or teleprocessing training will be given as appropriate and the persons appointed will continue to expand their skills particularly in the area of technical designing.

Located in North Surrey, the modern offices are close to all amenities, offering easy access via buses and trains. Additionally, there is ample free car-parking within the vicinity. Employee benefits include a 35-hour week, flexitime, £1.25 LVs per week and a first-class pension scheme.

Ref. S1/2308

MINI & MAIN-FRAME APPLICATIONS ANALYST/PROGRAMMER

BASINGSTOKE

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Our client is Europe's leading manufacturer of animal feedstuffs, manufacturing and marketing a range of products which have earned an enviable reputation throughout the livestock farming industry. Their recent acquisition of two PDP 11/84 minis to supplement the existing IteI AS/8 (IBM 370 plug-compatible) main-frame facilities has created an interesting opportunity for a programmer who wishes to advance his/her career and gain analysis experience on both mini and main-frame applications.

Working initially on the development of a large purchasing and management reporting system the person appointed will become involved in depth and will see the project through testing to implementation. If you have two years' programming experience using any commercial language and can offer experience of IBM OS systems and/or mini computer applications, this position will be an ideal career move.

As one expects of a major international organisation a range of fringe benefits are offered including relocation assistance. The company's head office is situated at Basingstoke in the heart of the Hampshire countryside. Well-served by public transport to surrounding towns and villages, the South Coast and Central London are also easily accessible.

Ref. SW1/2308

SYSTEMS CONTROLLER

NR. BRENT CROSS

Circa £8500

This position presents a challenging opportunity for a senior analyst to progress toward management within a successful organisation manufacturing high-technology medical life-support systems.

The person appointed will hold development responsibility for systems within both home and international sales and the associated marketing areas. He/she will interpret the requirements of user departments then relate these in system design, specification and administration, and ensure that development is completed within agreed time/cost parameters. Extensive liaison with the company's warehousing and distribution site will also be involved in ensuring that new developments interface with existing production applications.

The successful candidate will offer proven analysis skills spanning at least five years in the D.P. industry and incorporating the complete development and control of financial/commercial systems. A programming background will be advantageous but the most important factors are good communicative and project control abilities.

The company's strong commitment to D.P. is reflected by its current and planned extensive use of IBM System 34 hardware and related MAAPICS software throughout Europe. In the short term the Systems Controller will gain extensive experience of corporate information systems and in the long term can look forward to an interesting and progressive career path.

Ref. N1/2308

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We are taking a fresh look at our approach to information systems on our manufacturing plants, using the latest computer technology to create a highly integrated data base. This will be the source of management information and the base for development of advanced applications. The project will use the latest computer hardware and Exxon's Worldwide experience of computer project development.

We can assure you of a great challenge with a lot of personal responsibility and your ability and effort will contribute to the success of the project.

Chief Programmer

To become a key member of the programming group which will require the potential to lead and co-ordinate projects. At least 3 years experience ideally on a large IBM configuration with PL1 VM/CMS and data base applications. A Degree in Computer Science Engineering or numerate discipline is essential.

As a large organisation with a secure and developing future we can offer competitive salaries to young men or women who want to progress in an environment where success is rewarded. Our benefits package also includes relocation assistance to this attractive part of the South Coast. Telephone Howard Winters on Southampton (0703) 893822 or write with full details to Esso Chemical Limited, Fawley, Southampton SO41TX.



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To work with users who are engineering professionals you will need good communicating skills and the potential to lead a team in the future. A Degree in an engineering related subject is essential plus at least 2 years experience in a manufacturing or technical environment.

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Anglian Water Authority ELECTRONIC INSTRUMENT TECHNICIAN

Post No.: R3R28 Grade 4 £3,887-£4,184 (plus £312 p.a. supplement)

Applications are invited from suitable qualified and experienced persons for the above post based at Boston within the groundwater unit of the Resource Planning Section of the Divisional Engineer's Department. Applicants are expected to have a degree or HNC or equivalent in computer sciences and electronics and several years' relevant experience. Applicants should be able to collate and analyse hydrographic data and the ability to design, construct and maintain simple electronic component and circuit design. The duties of the post include working in a small team under a hydrologist in connection with the programming, operation, routine maintenance and improvement of electronic analogue and computer equipment, simulating and modelling groundwater resource systems, including the collection, analysis and programming of relevant data, and the preparation of reports and experimental results. Groundwater forms an important contribution to the Division's Water Resources and a wide programme of investigations and surveys is in hand and will continue in future years. The post provides an opportunity to broaden and widen experience in analogue and digital modelling, and to gain specialist knowledge in connection with groundwater modelling. NCC for Water Service Staffs conditions of service apply, and no localities expenses are repayable in appropriate cases. The post carries a casual users car allowance, and at present a review of salaries is being negotiated.

Application forms, which are returnable by 10th September, 1979 are available from the Divisional Manager at the address below:

LINCOLNSHIRE RIVER DIVISION
80 Wide Bargate, Boston, Lincolnshire PE21 6BA

DATA PROCESSING UNIT Magnetic Tape Librarian/ Data Control Clerk — AP2

Salary £4716 to £5187 inclusive
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● subsidised canteen
● close to Victoria main line, tube and bus terminals
To obtain application form please send postcard, telephone or call at the Personnel Management Division (Ref: MS/26), PO Box 240, WESTMINSTER CITY COUNCIL, City Hall, Victoria Street SW1E 6DP, telephone number 01-834 5955 (24 hour answerphone service). Closing date: 6th September, 1979.

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Come in at the beginning of our ambitious DP project

We are taking a fresh look at our approach to information systems on our manufacturing plants, using the latest computer technology to create a highly integrated data base. This will be the source of management information and the base for development of advanced applications. The project will use the latest computer hardware and Exxon's Worldwide experience of computer project development.

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Systems Analyst

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COMPUTER OPERATOR

(Ref: 5A)

Minimum 1 year experience with ICL 1900/2904. Excellent prospects for promotion. Transport company in City. Salary c.£4000. 2 shift. 4 weeks' holiday. Season ticket loan. Staff shop.

Contact: KIM.

DATA CONTROL CLERKS

(Ref: 1A)

Croydon company require Data Control Clerks with 18 months experience on IBM equipment.

L.V.s. 35-hour week. Free Life Assurance. 3 weeks' hols. Salary £3500 neg. Contact: KIM.

TRAINEE PROGRAMMERS/ NEEDED FOR SURREY & LONDON

(Ref: 011A)

Companies would like graduates-HND or degree in Computer Science — or very good A levels. Interesting positions with good promotional prospects. Salary c.£3500. 4 weeks' hols. Contact: KIM.

NETWORK CONTROLLER

(Ref: 15A)

Working through the Technical Support department of a Watford company. Would suit a Junior Operator with T.P. experience. Lots of client contact for the right technical person.

Salary up to £4000. Contact: KIM.

DDE OPERATOR

(Ref: 9A)

Good data preparation background with ICL equipment for a Surrey company. Salary negotiable. Subsidised canteen. Age immaterial. Contact: KIM.

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MAJOR COMPUTER FACILITY

Major Organisation employing large IBM equipment and using database (DL/1) and CICS seeks to strengthen its d.p. management team. The environment is a major In-Group computer facility which will service companies in various locations throughout Northern England. Both these management vacancies will be heavily concerned with providing a top class service to users in locations remote from the data centre itself. Attractive remuneration packages will be negotiated which will include re-location expenses where appropriate. Candidates should contact Ivor Norton with full career details, quoting the appropriate reference.

User Support Manager

£12,000

This position will carry responsibility for all aspects of customer service and support and is seen by top management as of key importance to the development and maintenance of a successful service to users. Previous experience, which should include a background in systems analysis and programming, must have included some time in a customer support role. This could have been gained in a large d.p. department, a commercial service bureau, or in technical support with a computer manufacturer or time-sharing organisation. Experience of working in or with customers/clients in a heavy Engineering environment would be an added advantage. Ref. (CW/79044)

NORTH EAST ENGLAND

Systems Manager

£12,000

This appointment will be responsible for the development of major systems for remote user companies. The companies vary in size and the applications cover finance, stock control and production scheduling and control in a heavy engineering organisation. The successful candidate will be a proven manager with extensive experience of systems development and implementation. Systems developments will be undertaken on a charge out basis and the manager will be responsible for the establishment of budgets, work schedules and their negotiation with the user companies. The manager must have the personality and ability to ensure that the scheduled commitments are met and that the predetermined fixed price budgets are not exceeded. Ref. (CW/79045)

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PROGRAMMERS

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Initial interviews will be held in our London offices during the last week of August.

Please phone or send your details to us as soon as possible.

POSITION	SALARY	EMPLOYER	LOCATION	HARDWARE ENVIRONMENT	SOME OF THE QUALIFICATIONS	REF. NO.
Contract Programmer/Analyst	£230 p.w.	Office Equipment	LONDON	IBM	An office equipment company heavily committed to data processing methods needs FORTRAN Analyst/Programmers to work on financial applications.	34/1
Systems Engineer	A.I. NEG.	Software House	EUROPE	IBM DOS VS	Install and maintain our clients products on their sites. Experience of supervising staff useful, also knowledge of one or more European languages an asset.	34/2
Project Leaders	£7,500	Services Organisation	LONDON	IBM	4 to 5 years' experience as a Systems Analyst or at Systems Design level in a banking environment would enable you to become involved in our client's work.	34/3
Programmers	c£12,000	Software House	WESTERN EUROPE	MINIB	Systems Designers and Programmers with real-time experience are required to work on air defence systems. Knowledge of radar systems is an advantage.	34/4
Designer Analyst	Good	Scientific	CHESHIRE	DEC	5 years' + analysis, design and implementation work on commercial projects. MACRO II would be a distinct advantage.	34/5
Programmer/Analyst	£5,500+	Insurance	CITY	PDP	Join our client in producing advanced real-time banking and communications systems work in the city and enjoy good benefits.	34/6
Programmer	NEG.	Petroleum Co.	LIBYA	IBM	This expanding petroleum company is in the process of recruiting staff for their DP department. Remuneration package offered is very good.	34/7
Programmers Project Managers Technical Authors	c£5,500	Aeronics Industry	U.K. & BAVARIA	MINIB	Qualifications or experience in DP or electronics disciplines are preferred for exciting work on real-time systems.	34/8
Managing Consultant	£12,000	Financial Services	MIDDLE EAST	ANY	This management position offers great scope for Arabic speaking consultants to liaise with all levels of management.	34/9

INFORMATIX UNITED KINGDOM AND OVERSEAS INDEX

Haven Informatix Limited

24 Grays Inn Road London WC1X 8HR Telephone 01-831 6055 Telex 299539 HAVEN G

Barking Precinct—Computer Centre

Senior Operator (T3/4)

Required to work within the Operations Group in the Computer Centre. The duties include controlling the flow of work through the computers, interpreting and acting upon messages displayed by the operating systems, monitoring equipment for possible malfunction, and assisting in preparation of shift records. Applicants should have attained at least GCE 'O' level standard education and have experience of ICL 1900 series computer. The hours of work covering two-shift working are between 8.00 a.m. to 23.00. Salary is on a scale ranging from £4,886 to £8,112 per annum inclusive according to age, qualifications and experience. Ref: T149/78.

Computer Assistant (T1/2)

This post provides an ideal opportunity for a young person wishing to enter the field of computing. The work will include assisting in the operation of computer peripherals and off-line equipment, and collating input and output documents. Candidates should be aged eighteen or over, and have obtained 'O' levels in several subjects. Two shift working, as in operation, the hours covered being 8.00 a.m. to 23.30 p.m. The inclusive annual salary will be on a scale from £2,808 to £4,887 per annum inclusive according to age, qualifications and experience. Ref: T150/78.

For further details and an application form please contact the Personnel Office, North East London Polytechnic, Asia House, 158-164 High Road, Chislehurst, Kent. Tel: 507 2321 (ask for recruitment section) quoting the relevant reference number. Closing date: September 7, 1979.

NELP North East London Polytechnic

FAMILIARITY BREEDS RESPECT... a fact that no professional who has been involved with minis will deny. We have a longstanding affection for the mini, it has served us better than could ever have been expected. Consequently, our systems development programme has been designed around a heavy commitment to the use of more minis throughout our manufacturing plant.

The growth of our mini network will soon reach a stage where specialist skills will be needed for effective control and development. We are therefore seeking a professional with a sound background in mini computers, either with a manufacturer, software house, or industrial environment.

A HIGH PERCENTAGE OF THE MINIS IN USE ARE DEC PDP 11's AND THEREFORE WE ARE SEEKING EXPERIENCE OF:-

DECNET, RSX 11M, MACRO AND IDEALLY RTL 2.

Acting in the role of a working supervisor of a small team, you will be completely responsible for all technical considerations connected with our mini project development.

We regard this position as vital to our growth and it should be regarded as a progressive career post.

An attractive range of benefits are available including a comprehensive relocation package

TO ARRANGE A CONFIDENTIAL INTERVIEW CONTACT OUR ADVISING CONSULTANT: MARTIN STANTHORPE
ON: 021-236 3781 (24 HOUR ANSWERING SERVICE)
OR: 021-744 1862 (EVENINGS AND WEEKENDS)

Specialist Computer Recruitment Ltd

London 01-835 0671 3 Mandeville Place, Wigmore Street, London W1M 5LB
Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA

CHANCE TO SEE THE CONTINENT

We are a metal-working company, situated in the Frankfurt area of Western Germany.

We are seeking a:

SENIOR PROGRAMMER ANALYST

Applicants should have a commercial background as well as several years COBOL, RPG II and ASSEMBLER experience. Applicants should also have good knowledge of teleprocessing (CICS) as well as DL/1 (data bank).

Our system is an IBM370/115-384K, disc under DOS/VS POWER/VS CICS.

As we seek a highly experienced person (Male or Female) the salary offered will be high (DM 4,500 per month depending on experience etc.).

We also have a vacancy for an:

OPERATOR

Applicants should have good experience running a D.P. unit as described above, within a commercial environment. For this vacancy several years' experience is required as an above average salary is offered.

For both vacancies a basic knowledge of the German language is necessary.

We believe that the above opportunities will give a chance for two young people to gain first hand knowledge of working in a foreign country within a friendly organisation.

Assistance with housing and relocation to Germany will be given, as well as help concerning administrative authorities etc.

First interviews will be held in Great Britain.

If you are interested in one of the above vacancies please write with full C.V. to:

FAGRO
Press und Stanzwerk GMBH
Postfach 1261
6080 Gross-Gerau
W. Germany

Systems Programmers - all levels

In order to develop our next generation of micro-computer based terminals we need innovative Programmers who are looking for an opportunity of applying their abilities to the design and development of complete systems.

Those abilities should include the capability of taking a product from initial concept through design and development into production.

Specifically, you will be involved on all of the following:

- * Operating Systems
- * Interpreters
- * User Interfaces
- * Maintenance and Diagnostic Routines

Previous experience in any of the above would be useful but not essential, enthusiasm being the most important factor.

We are looking for Systems Programmers at all levels, from recent graduates to those with many years of experience who are looking for a new challenge.

Initially you will be based at Croydon although some travel will be necessary in order to fulfil your job responsibilities. Long term career opportunities exist both in the UK and overseas.

The compensation package will reflect the importance placed on these positions. Salary, in particular, will not inhibit selection of right persons.

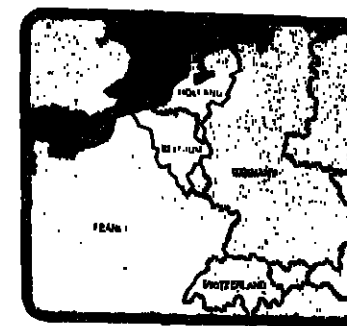
Please write to or telephone:

Phil Abraham
Programming & Systems Development Manager
Burroughs Machines Ltd.
812 Purley Way, Croydon
Surrey CR0 4NZ
Telephone: 01-886 0385, ext. 228

Burroughs

£10k+Appointments £10k+Appointments £10k+Appointments

Have you considered
**working
in Europe?**



If you have a good IBM 370 background in Systems Programming, or TP/DB Applications Development, why not contact CDS to find out more about Working in Europe. We especially want to hear from applicants for these current project needs:

SENIOR SYSTEMS PROGRAMMER-VSI

to undertake a consultancy project at a Dutch client on a six-month renewable contract basis. Responsibilities will cover all aspects of VSI software support plus the training and development of 2 junior staff. Applicants should be fully conversant with BAL and have several years' OS/VS 1 experience. DB/DC knowledge is also important since non-IBM databases and TP systems are in use. You will be able to exercise your supervisory skills and your technical expertise during this assignment, whilst achieving excellent earnings.

For further details contact Jim Shaw at CDS, or on 0990 24546 evenings/weekends.

**TOP
EUROPEAN
EARNINGS**

CDS
EUROPEAN ASSIGNMENTS

87/73 Park Street
Cambridge, Surrey
GU16 3PE
Tel. (0278) 25845
Telephone: 848696

APPLICATIONS PROGRAMMERS

JCA 1
Germany c £17,000 p.a.
At least HNC level plus 3 years' experience as Applications Programmer. Good knowledge of PL/1, DB/DC and MVS/IMS/TSO. Background in IBM 370/160. German an advantage.

SYSTEMS PROGRAMMERS

JCA 2
Germany c £17,000 p.a.
At least HNC level and good knowledge of PL/1 under MVS/IMS and experience of Time Sharing Options. Knowledge of IBM 3033 and IBM 370/168 required. German an advantage.

SYSTEMS ANALYST

JCA 3
Germany c £20,000 p.a.
Degree level plus wide knowledge of Systems Analysis and PL/1, DB/DC, experience of IBM 370/168 range. IBM 3033 also an advantage. Good understanding of MVS/OPS systems, TSO and IMS. Good working knowledge of German required.

Please telephone, quoting appropriate reference

ORS Services
Recruitment Consultants, The Palace Hotel, Overton
37 Golden Square, London, W1R 4AL
Tel. 01-439 9451

**£10K +
APPOINTMENTS**

If you require personnel who command salaries of £10k and over take the opportunity of advertising in this special REGULAR FEATURE.

For further details contact:
Mark Williams
on 01-261 8028
or
Mark Pulver
on 01-261 8174

We didn't get where we are today by setting low sales targets!



—but many of our sales exec's still manage to earn over £16,000 p.a. (Plus a Car)

Systeme Limited make 'real-time' mini computers—the ones that are now revolutionising office and business systems.

The company started up just seven years ago. Today it employs getting on for 750 people worldwide. And the computer industry, as you know, isn't very labour intensive!

But even though demand is higher than it's ever been—and is increasing madly—we still have to sell our wares in a competitive environment and need motivated, experienced sales

executives to take care of the sharp end of the operation.

The People
Ideally the people we require will already have experience selling computers but we would also like to hear from those with sound experience selling the more sophisticated lines of office equipment.

The Location
Based in one of our main regional centres—London, Leeds, Manchester, Bristol, Northampton and Nottingham.

For details write or phone Ron Napier at:
Systeme Limited, Concourse Computer Centre, 432 Dewsbury Road, Leeds LS11 7DF
Tel: (0532) 707411

Making Computers make sense.

SYSTEME

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NORTHAMPTON
NOTTINGHAM

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GLASGOW
FRANCE
HOLLAND
INDIA

For details of forthcoming Features in the North and Scotland

Northern Recruitment Feature, September 27th

Scottish Recruitment Feature, October 25th

Contact Owen Kelly on 061-832 4211

ANALYSTS

Surrey Starting Salary £5000 - £8000
Can you ensure users get the systems they need?

In every installation the real test of a successful system is whether it meets the user needs. In our client's installation a small quality assurance group ensures that systems do meet the user requirements and that control and procedures exist which allow the systems to operate efficiently and effectively.

As an Analyst within this group you would be looking at systems from a user standpoint. It will be necessary to consider the results achieved by the systems and the methods used. Extensive test databases have been developed as an aid in this and Analysts will build test packages to allow thorough investigation. The successful applicants will have full responsibility for specific applications areas.

Our client is the research and development centre for one of the worlds largest banks. The centre supports branches in 20 locations throughout Europe from communications networks using Honeywell mini computers and IBM mainframes. Major equipment reviews are underway and the Analysts in the quality assurance group will be responsible for ensuring that the introduction of latest generation hardware enhances the service to users.

Applicants should have proven analytical skills developed in a commercial or financial environment. The ability to assess projects in a short timescale whilst retaining an "eye for detail" is very important; as is the personality to convince systems personnel on specific approaches to problem areas.

Starting salary will be negotiable between £5,000 and £8,000 and the significant benefits associated with major financial organisations apply.

Passports open to male & female applicants, please telephone (24 hour service) for initial discussion or write to address below. QUOTE REF. CW 192-9H

COMPUTER AND PERSONNEL CONSULTANTS **CAPP ASSOCIATES**  **01-686 9693**
LONDON AND MANCHESTER A.M.P. HOUSE, DUNWALL RD., CROYDON, SURREY CR9 2AU

PROGRAMMERS

Central London Up to £7000

This is an opportunity to gain large-system experience in a well-organised major mainframe installation using advanced techniques, particularly DATABASE and ON-LINE.

We are recruiting for clients, who offer interesting and often challenging work, with good training facilities, to career-conscious programmers. Salaries and prospects are good, and there is a substantial volume of development work on hand.

You should have a good educational background ('A' level or degree) and from 1½ to 3 or 4 years' practical programming experience. This could be on any machine using any language. COBOL knowledge would be valuable, but if you have used another language our clients will retrain you.

Please ring us for a confidential discussion, quoting ref. 686, or leave a message on our answering machine after hours and we'll contact you.

 **EDP SYSTEMS** 01.637 5796
52-53 Margaret St. London W1N 7FF



LOTHIAN REGIONAL COUNCIL

Computer Systems Development
EDINBURGH

Development staff are required in the TECHNICAL APPLICATIONS GROUP to work on a range of engineering and non-financial projects to be implemented on the Region's ICL 2970/2960 configuration.

Candidates are invited to apply for the following posts:

Project Designer £6942-£7512

Senior Systems Analyst/Programmer £5382-£6636

These scales will be reviewed on January 1st, 1980, as a result of a comparability study currently being undertaken.

Candidates must have a proven record of achievement in systems design and programming, using COBOL and FORTRAN. Starting salaries will depend on individual qualifications and experience.

Assistance may be provided with relocation, where appropriate.

Please write or phone for an application form:

DEVELOPMENT MANAGER
LOTHIAN REGIONAL COUNCIL
FINANCE DEPARTMENT
COMPUTER DIVISION
WARRISTON'S CLOSE (323 HIGH STREET) Tel: 031-229 8292
EDINBURGH Ext. 2321

CITY OF LONDON
SENIOR
TECHNICAL
PROGRAMMERS
Salaries up to £8,000

Lloyd's Register requires several technical programmers, at Senior and Junior levels, offering an interesting and demanding career.

A wide range of hardware is employed and includes Desktops, Minis and RJE Mainframes, FORTRAN, BASIC, APL and Assembler are used and training would be given where necessary. You would be encouraged to work closely with engineering staff to design and produce programs and systems for shipbuilding and offshore applications.

Please telephone 709 9168 ex 632 or write for an application form to The Recruitment and Staff Relations Officer marking the envelope 'Confidential'.

LLOYD'S REGISTER
71 Fenchurch Street
London EC3M 4BS

DEPUTY COMPUTER
MANAGER

ODEX LIMITED, one of the leading companies engaged in the marketing of industrial hygiene and laundry products wish to appoint a Deputy Computer Manager (male or female) to assist in the running and development of a new ICL 2903/40 installation. This is an exciting opportunity for someone ideally aged 25-30 with experience of ICL computers to make a real contribution towards the development of computer applications throughout the Company.

Prospects for promotion, both within the Company and throughout the wider Paterson Zochonis Group, of which Odex is a subsidiary, are excellent for the right person.

Attractive salary and fringe benefits are offered and assistance with relocation costs if necessary.

Please apply, in writing, to:
Mrs. B. James, Personnel Officer
ODEX LIMITED, Cranwall Road, Ellamers Port
South Wirral L65 4DP

MIDLANDS VACANCIES NORTH WEST

WALSALL c £7000
SENIOR SYSTEMS ANALYST
To act as a project leader for new development work. Experience of stock control and/or accounting systems an advantage.

WEST BROMWICH to £6200 + bonus
PROGRAMMERS/SENIOR PROGRAMMERS
This client urgently needs good quality programmers who have experience in COBOL.

BIRMINGHAM to £7500
PROGRAMMERS
This client in central Birmingham requires experienced COBOL programmers to work on new commercial applications. Knowledge of ICL 1900/2950 an advantage.

BIRMINGHAM to £7500
SYSTEMS ANALYSTS
This client, a large manufacturer requires analysts at all levels to bring a large team up to strength. Experience of production control would be an advantage.

LEICESTER to £6600
ANALYST/PROGRAMMERS
Analyst programmers are required to develop real time systems on PDP 11's under RSX 11M, knowledge of minis and micros an advantage.

COVENTRY to £7500 + paid overtime
SYSTEMS ANALYSTS
Experienced systems analysts are required by this large manufacturing company to assist in the development of a variety of new projects. Experience of large IBM equipment an advantage.

LEICESTER to £6800
PROGRAMMERS
This client requires good programmers for a distributed network of machines controlling various functions. Knowledge of ICL and/or IBM equipment an advantage.

BIRMINGHAM to £7250
PROGRAMMER/ANALYSTS + car scheme
This client, an expanding turnkey operator needs people immediately at all levels who have experience in a commercial, COBOL environment.

LEICESTER £ negotiable
ANALYST/PROGRAMMER
An analyst programmer is required to work on payroll and ledger systems. Experience of NCR Century and/or Criterion an advantage.

NOTTINGHAM £ negotiable
SENIOR PROGRAMMERS
Experienced PL/I programmers are required who preferably have a knowledge of VSAM and/or CICS to work on commercial systems. The salary will be attractive to the right people.

LOUGHBOROUGH c £8000
SYSTEMS ANALYST
A systems analyst is needed by this client to perform all aspects of systems analysis for new on-line applications. A good educational background will be an advantage.

DAVENTRY to £7500
PROGRAMMERS
Programmers with a minimum of 2 years experience using PDP 11's, RSX 11M and CORAL 86 are required to work on real-time and process control equipment. Graduates preferred.

BIRMINGHAM to £8000
SENIOR PROGRAMMERS
Expanding software house needs experienced COBOL commercial programmers. Knowledge of NCR 8250 or TI990/10 an advantage.

Phone **PETER GILBERT** on **LEEDS (0532) 444185** (daytime) or on **BRADFORD (0274) 834074** (evenings and weekends) or write with brief details (no stamp required) to Lorien Computer Services, FREEPOST, Leeds LS7 3YY.

LIVERPOOL c £6800
SYSTEMS ANALYSTS
Our client is seeking a number of staff to cover major developments with in-depth analysis and design experience. Excellent benefits and long term prospects available.

LIVERPOOL c £4200
COBOL PROGRAMMER
Our client, with a medium sized in-house installation, is seeking a COBOL programmer with over 12 months experience on IBM, UNIVAC or Honeywell hardware to work on large developments.

LIVERPOOL c £7000
TECHNICAL ANALYST
A young, well educated Analyst, with experience in TP systems, and some FEP software background is urgently sought by our client. Large, technically advanced installation.

PRESTON to £5000 + Bonus
COBOL PROGRAMMERS
Large IBM installation is seeking experienced COBOL programmers with experience ideally in a manufacturing environment. Outstanding career prospects. Good bonus scheme.

PRESTON to £7000 + Bonus
SENIOR ANALYSTS
Multi-hardware installation requires a number of Analysts with over 3 years in-depth analysis/design experience, IBM background an advantage but not essential. Other excellent benefits available.

MANCHESTER c £8800
SYSTEMS ANALYST
Our client operates large IBM hardware, and is seeking an Analyst with a financial/accountancy background, and some Data-base experience.

ROSENDALE c £5300
BASIC +
Our client requires experienced Programmers, and Analysts/Programmers with BASIC + gained on PDP hardware. New expanding installation.

MERSEYSIDE c £7500 + Bonus
MINI TECHNICAL SPECIALIST
Major UK organisation requires a Principal Technical Specialist to manage small team engaged in technical software support of extensive real-time mini system. Experience in mini-controlled TP or Distributed Processing techniques required.

NORTH MANCHESTER to £5400
COBOL PROGRAMMERS
Large, ICL installation is seeking experienced COBOL programmers with either 1900 or New Range experience to join on-line 2900 development team. Very good career prospects.

NORTH MANCHESTER to £7000 + Bonus
SENIOR ANALYST
A Senior Analyst is required to head small team in development of on-line manufacturing systems. A programming background, ideally COBOL, is an advantage but not essential.

PRESTON c £8500
BUSINESS ANALYSTS
Our client is seeking two experienced Analysts who combine some technical expertise with sound business problem solving talents.

MERSEYSIDE c £6000 + Bonus
IBM ANALYST/PROGRAMMERS
Major IBM user requires either existing Analyst/Programmer or ambitious COBOL programmer who are seeking Analysts involvement. Bonus scheme and other benefits.

*** URGENT - CONTRACTS - URGENT ***
SYSTEMS ANALYSTS - £250 p.w.
LONG TERM CONTRACT, MERSEYSIDE.

Phone **STEVE SYKES** on **LEEDS (0532) 444185** (daytime) or on **LEEDS (0532) 662417** (evenings and weekends) or write with brief details (no stamp required) to Lorien Computer Services, FREEPOST, Leeds LS7 3YY.

AVON UNIVERSITIES
COMPUTER CENTRE
AT UNIVERSITY OF BRISTOL

Applicants are invited for a post of

Senior Systems
Programmer

to work on the Honeywell Level 68 DPS computer which operates using the MULTICS interactive system. This computer is the first of its kind in Europe and will be providing a full user service, to the Universities in the South West, in October. The successful applicant will be required to co-ordinate the installation and maintenance of new versions of the operating system, compilers and applications packages. He/she will co-operate with all five Universities in the South-West Network in effecting software changes, in an orderly manner, and will participate in software development.

A degree in an appropriate discipline is required and systems experience would be an advantage.

The appointment will be made on the Grade II (Other Related) scale with a salary in the range £9,886 to £9,452 per annum (scale subject to revision on 1 October, 1979).

Applications, together with the names of three referees, should be sent by 31 August to the Registrar and Secretary, University of Bristol, Senate House, Bristol BS8 1TH, from whom further particulars may be obtained.

DOWELL
Schlumberger

International Oilfield Services Company
seeks

PROGRAMMER
for its PARIS HQ

THE JOB: Researching, writing, and documenting short scientific application programs for use in well treatment design, well data analysis, and drilling operation planning. The machines are PDP 1103 mini-computer and HP 67 with time sharing.

THE CANDIDATE: Should have B.S. degree (or equivalent) in computing/mathematics with computing and be familiar with HPL, Fortran and Basic languages. Experience in the oil industry would be an advantage.

Excellent salary and benefits and generous relocation allowance.

Please write with detailed C.V. to:
The Recruitment Co-ordinator
Dowell Schlumberger
8 rue Belin
75792 Paris Cedex 16
Initial interviews will be held in London.

Analyst
Programmers

A CHANCE TO MAKE
YOUR MARK

Huntingdon Research Centre is the leading independent research establishment in Europe, specialising in the safety evaluation of pharmaceuticals, pesticides and general industrial and environmental chemicals. Continued rapid expansion has resulted in the need to upgrade our present ICL 2904 to the 2950 range in March 1980. In addition, the 2950 will be linked to a network of distributed mini/micros for the remote capture of laboratory data. This development creates the following new, permanent positions:-

SENIOR ANALYST
PROGRAMMERS
c £6000

Formerly trained Systems Analyst, educated to degree level with at least four years' programming experience in ALGOL and/or COBOL.

ANALYST PROGRAMMERS
c £5000

Educated preferably to degree level with at least three years' experience of programming in ALGOL and/or COBOL. Formal training in Systems Analysis would be an advantage.

PROGRAMMERS
negotiable

Educated to HND/degree level with knowledge of ALGOL and/or COBOL. Starting salary dependent on experience.

An attractive range of benefits is offered, including a generous pension scheme and relocation assistance where required.

Please write, giving brief history of career to date to: Mr. J. West,
Personnel Director,
Huntingdon Research Centre,
Huntingdon, Cambs. PE18 6ES.

 **Huntingdon Research Centre**

Computer Professionals for Major Retail Group

Senior Systems
Analysts (2) c£8000

Project
Programmer c£7000

Our clients, a leading retail organisation in Scotland, are about to embark on a major systems development at their head office in Glasgow.

Over the past years, the company's record of growth has been impressive, and this has been achieved through hard work, innovation and a determined effort to alleviate any problems standing in the path of increased growth.

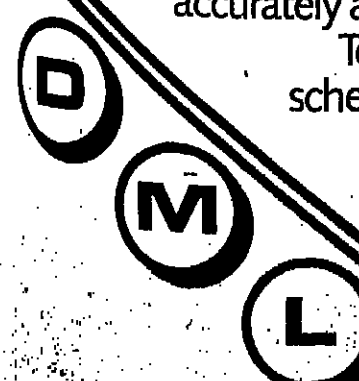
With this in mind the company has decided to install new IBM hardware and recruit a team of computer professionals with the expressed objective of implementing Advanced Business Systems, especially in the Accounting/Merchandising field.

The Senior Systems Analysts will effectively be in control of their own major projects and should therefore have considerable experience of systems implementation, preferably in a retail/service industry. The Project Programmer should have at least 4 years' commercial programming experience (COBOL) and be used to working accurately and efficiently with a minimum of supervision.

To the right candidates the company offer excellent career and financial prospects plus a profit-share scheme, and other normal large company benefits.

For more information, telephone Philip Bliss on 031-226 6674, or write, enclosing a detailed CV, quoting Reference CP/32/E, to DML Computer Personnel Services,
11 Charlotte Square, Edinburgh, EH2 4DR

LOCATION INTERVIEWS WILL BE HELD IN MAJOR CENTRES THROUGHOUT THE U.K.



031-226 6674

Recruitment



In Informatics

Manufacturing Systems Consultants Thames Valley

Potential earnings to £10K

An internationally renowned supplier of Data Base and Teleprocessing Management Systems has retained Logistix to identify and recruit Applied Systems Consultants. The Company has recently expanded its product line by the introduction of Manufacturing Application Software in U.S., English and Continental European markets. Systems Consultants are now required to act in a pre- and post-sales environment from its U.K. base in the Thames Valley. Suitable applicants must have current experience in a manufacturing environment. Ideally 'on-hands' experience should amount to a minimum of 5 years. It is anticipated therefore that candidates will be aged 25 years or more. Application areas involve Materials Requirements

Planning, Purchasing Control, Capacity Requirements Planning and Work-in-Progress Activity Reporting. The scope of activity mostly within the U.K. but also Continental Europe will be certain to appeal to the most demanding career-minded individual. The above average earnings reflect the prominence which our client has placed in finding high calibre professionals. The opportunities for the ambitious are endless within the Groups diverse marketing and geographical activities. Interviews will be held in our clients' U.K. Head-Quarters in late August/early September for appointments to be taken up in early to mid October. Ref: A/23/08

Message Switching & Communications Bavaria

Salary to £17K

A prestige German client wishes to expand and establish a small specialist project team working in the areas of Data Communications and Packet/Message Switching. This is a very rare opportunity to enhance your career by extending your social horizons and developing State-of-the-Art D.P. technology whilst having the benefit of living in a country with an extensive range of leisure and pastime activities. Successful candidates will be either graduates (Computer Science, Maths, Physics, Chemistry) or

have in-depth knowledge in advanced real time applications. You will probably be employed as a Systems Designer or Software Programmer in a Mini-Computer environment with extensive Assembler experience. Those candidates who have a genuine desire to relocate permanently to West Germany are especially welcome and particularly those who have a basic (or fluent) knowledge of the language. Ref: B/23/08

Systems & Programming Consultants London

Salary: £7-14K

Our client is a leading International Programming and Systems House having bases in Central London and The City with an urgent requirement for project team specialists. Well above average salaries will be paid to ambitious, presentable candidates who enjoy involvement with customers in developing their systems and solving their business problems. Successful candidates will probably be graduates with a minimum of two years programming experience on any commercial machine whilst know-

ledge of both high-level and low-level languages will be a distinct advantage. If you have designed at least one complete on-line system or have had project management responsibility, then of course you would be considered for a more senior position within the organisation. Other benefits include annual profit-sharing, non-contributory pension scheme, life assurance, BUPA membership and a Share Purchase Scheme. Ref: C/23/08

IMS Specialists EEC

Salary: £12-16K

One of the World's foremost Software Specialist Groups has retained Logistix to identify top-calibre IMS Programmers and Designers up to Team Leader level and beyond for permanent positions in Holland, Belgium and Germany. Suitable applicants must have current IMS/DB-DC applications or systems programming experience using COBOL, PL/I or BAL. Alternatively, you have programmed in Assembler under DOS/VS then your experience could also be relevant provided that the applications were developed for an on-line real-time system. Candidates

who have recent or current exposure to the software of an Independent Supplier such as SHADOW, TOTAL, ADABAS or IMS will also be considered particularly if the environment utilised large IBM mainframes. The scope of projects and the prestige of working with this acclaimed Market Leader represent an excellent opportunity for career minded individuals since there will be active encouragement for employees to relocate and work on other European projects. Ref: D/23/08

Business Consultant City of London

Salary: £9-5K + Package

Your Banking Involvement (Foreign Exchange, Euro-bonds Portfolio Management/Investment) will earn you excellent financial and career rewards with this 'blue chip' Financial Institution operating in The Square Mile. It is a definite plus point to have been associated with mini-computers (for example PDP 11, Hewlett Packard 3000 or

ICI 2903-4) within a distributed processing environment. The successful candidate will lead a project team of 6 comprising Systems/Business Analysts and Programmers developing and implementing new systems for both The City offices and its European counterparts. Interviews are scheduled for early September. Ref: E/23/08

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engineering applications

An Analyst/Programmer is required to work as a member of a small Computer Group in BP's Head Office Engineering Department.

The Computer Group acts as a central co-ordinating unit for all computer applications in the department. Current applications involve the use of the company's UNIVAC 1100 main-frame, a Hewlett Packard 1000 mini-computer and various computer bureaux.

The successful applicant will be involved in providing a programming and advice service for Engineers covering a range of disciplines, and maintaining a suite of administrative programs.

He/she will also assist in training Engineers to use computing facilities and maintaining a register of Engineering programs.

Candidates must have a degree in Engineering, Science, Mathematics or Computer Science and a minimum of 3 years' experience writing computer programs of a technical nature preferably in FORTRAN.

A knowledge of UNIVAC systems would be an advantage.

For applicants with no formal Engineering training familiarity with basic Engineering concepts is essential.

Excellent salary and conditions of employment offered. Please write with brief details of age, qualifications and experience, quoting reference FY687, to Sue Bartholomew, Central Recruitment, The British Petroleum Company Limited, Britannic House, Moor Lane, London EC2Y 9BU.

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PROGRAMMER

Unionoil Company of Great Britain, a subsidiary of Union Oil Company of California, wishes to engage a Programmer for the Computer Services Department at the Sunbury-on-Thames Head Office. This position, in a recently established department, offers a unique opportunity for professional challenge and scope.

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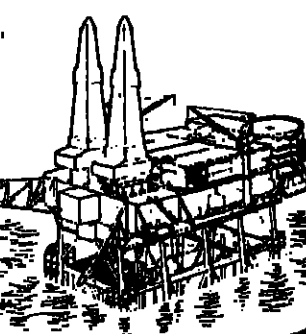
Candidates should have 'A' level qualifications and two to four years' experience with Cobol. Familiarity with Fortran or Basic would be an advantage.

This position offers an excellent salary and benefits package and interesting career opportunities with an international oil exploration and production company.

Additional benefits of this position will be the experience gained on our in-house computer, which currently controls an on-line and multiple site environment.

Interested persons should respond in writing to the address below. All responses will be held in strict confidence.

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Sunbury-on-Thames,
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Telephone: Sunbury 85600.

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(Programmer)

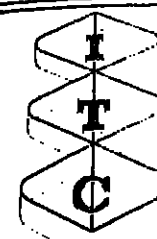
To assist Academic Staff engaged in research in High Energy Physics including the study of nuclear-antiproton interactions in the CERN Omega Spectrometer. Duties include: assisting with analysis of data, using the S.R.C. Rutherford Laboratory's IBM 360/195 computer. Good knowledge of Fortran essential. Some time will be spent at the CERN Laboratories in Geneva. Degree or equivalent essential and knowledge of physics and previous experience an advantage. Salary, according to age and experience, on the scale for Experimental Officers, up to £8,100 p.a. of Senior Experimental Officers (up to £7,145 p.a.). Application forms available from The Registrar, The University, P.O. Box 147, Liverpool L69 3GB. Dates for 1979/80: 15/8/79.

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BNF, a large international research and development organisation, is extending its exploitation of microprocessor controls in industry, including process monitoring and control, automatic safety checks, machine operating sequences and production control. A well qualified and experienced electronics engineer is required to join the team responsible for this work. Excellent pay and conditions, pleasant rural surroundings.

Please write to S. D. Dole, Secretary, BNF Metals Technology Centre, Grove Laboratories, Denchworth Road, Wantage, Oxon OX12 9BJ quoting reference AC15 and stating salary required.

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We are a successful industrial manufacturing concern, heavily committed to an on-going systems development programme with mini computers performing a key role. We have a variety of mini computers already in use, the majority being in the DEC PDP range, which perform alongside our mainframes.

SOFTWARE IN USE INCLUDES DECNET, RSX 11M, MACRO, RTL 2, PL 1, IMS DB/DC

We are seeking to strengthen our management structure by recruiting Analysts with experience of minis or even micros, who possess the ability to successfully manage a team of Analysts and Programmers. Responsible for analysis, design and reporting aspects of the projects, we will expect a high degree of self control and the use of initiative.

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He/she should be a graduate and have had some years' experience of DEC hardware and be fully conversant with Basic Plus or Plus 2.

The job covers the full range of modern business systems but a demonstrable track record in On-Line Production/Stock Control programming and Systems Design would be an advantage.

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COMPUTER OPERATOR REF. NO. 66

The above authority offers an experienced Computer Operator the opportunity to work beside friendly colleagues in modern offices situated in pleasant surroundings close to Harrogate town centre.

The Authority operates in ICL 1904A with 128K core, 8 x EDS60, 8 x 1600 bpi tape drives, 2 line printers, card reader, paper tape reader and communications and the successful candidate will be expected to have experience of operating on a medium to large ICL installation using GEORGE 3. He/she will join a team of operators working a two shift system covering five days per week.

Salary: £3,907.25 p.a. (increase on 1 January 1980), plus shift allowance of 10%. Candidates from outside the Health Service will commence at the minimum of the scale.

Application form and job description available from the Regional Personnel Officer, Yorkshire Regional Health Authority, Park Parade, Harrogate HG1 5AH. Telephone 88081, Ext. 240. (Please quote reference number) Closing date: 10 September, 1979.

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We require a Systems Analyst, with at least two years' experience, to work primarily on accounting applications. Knowledge of Prosper or other modelling packages would be particularly useful.

We currently operate an ICL 1903A and a 1901T and are evaluating new equipment.

Salary in the range £5487 to £7434 per annum depending upon age, qualifications and experience.

Four weeks' holiday. Free life assurance and generous sick pay arrangements. Subsidised canteen. Active sports and social club. Discount on staff purchases.

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Starting salary according to qualifications and experience. Relocation expenses considered. Based in London.

Telephone or write immediately for application form enclosing addressed envelope quoting reference number 1577/CW to: Appointments Department, BBC, London W1A 1AA. Telephone: 01-580 2468, Ext. 4610.

BBC

Computer Programmer / Operator

Salary: £4275-£5262

This vacancy arises from promotion of the previous postholder to a more senior position in the developing computer section, responsible for all the Council's data processing work on their ICL 2903 installation. Experience of local Government; ICL 2903 and COBOL is desirable for this position.

Housing may be available in approved cases. For further details and application forms contact the Personnel Section, Town Hall, Epsom, Surrey. Phone Epsom 26252 Ext. 336 or 337. Closes 7th September, 1979.

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The successful candidate will be responsible for all technical considerations of the introduction of the ELECTRONIC OFFICE into the user areas. Technically this means linking VDU's on communicating word processors to databases supported on IBM 4300 hardware.

It is an exciting project of the type that occurs most infrequently and one which is bound to broaden the experience of those who work on it. We believe that to allow someone to run the project effectively a good CICS design background combined with a COBOL knowledge would be necessary. Long term it is anticipated that the role would include a significant database design and administration content so any relevant experience would be valuable but is not essential. The role will be a full one covering user support, liaison with manufacturers and other technical staff.

Our client is an insurance broker, part of a major group, whose D.P. department is shortly to move into new purpose built offices. The location means that good quality low cost housing is available and relocation expenses will, of course, be paid. In this fast moving, dynamic, environment it has been shown that there are ample opportunities for career progression. Salary is negotiable to the above and significant benefits apply. To find out more telephone Capp Associates.

Positions open to male & female applicants, please telephone (24 hour service) for initial discussion or write to address below. QUOTE REF. CW167-9H

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COMPANY BACKGROUND: Our client is a long-established and successful agent in the Gulf area for many major Companies, including Burroughs Machines, Volvo and Caterpillar. As one of the largest organisations within the private sector in Kuwait, they offer secure employment and a most attractive remuneration package. This includes travel facilities which enable children educated in the U.K. to spend holidays with their families.

A highly effective dual processor Burroughs 1728 installation is operational. This equipment is currently used to handle parts inventory, with on-line data entry and enquiry facilities, and it is planned to develop new systems in the near future. As the Burroughs Agent In The Gulf, the Company has its own marketing and support division, separated organisationally from the DP Department.

The working environment is friendly and the current Chief Programmer is now, for personal reasons, reluctantly planning to return to the U.K.

RESPONSIBILITIES

To manage a programming section which currently comprises two Analyst/Programmers, two Programmers and some trainees. He will be responsible for all programming work and technical support within the installation.

REQUIRED PROFILE:

1. At least 6 years' programming, including good COBOL.
2. 2 years' experience of Burroughs medium range computers with discs or B1726 upwards.
3. Experience of supervising a programming team.

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Senior Operator	370/145-3031 (later)	2 Shift	W. London	£5500	Ref. M3346
Senior Operator	System 3/15 D08	2 Shift	N. London	£5200	Ref. M2879
Senior Operator	370/138 D08/VS	3 Shift	Croydon	£5000	Ref. M3385
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ICL 2904	Operators	Berkshire	3 months	Ref. B3220
ICL B11	Operators	W. London	Indefinite	Ref. ME487
IBM OS VS1	Operators	Essex	Indefinite	Ref. ME200
IBM DOS	Operators	Surrey	2 months	Ref. CM466
IBM DOS	Operators	London	Indefinite	Ref. CM483
Honeywell GCOS	Operators	N. London	Indefinite	Ref. ME280
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The Programmer will be working as part of a team engaged in projects such as student records, graphics packages, basic teaching packages, amongst others. All programmers undertake advisory work.
Applicants should have knowledge of FORTRAN, COBOL, BASIC and will be given the opportunity to take part in a variety of work, with training given where necessary.
Appointment will be made within the salary range quoted at a point determined by qualifications and experience.
Staff of the Polytechnic have available to them a wide range of sporting facilities including sailing, golf, water skiing etc.

Application forms to be returned by Friday 7th September, 1979, can be obtained with further particulars from The Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

NORTH EAST LONDON POLYTECHNIC Computer Centre

APPLICATIONS PROJECTS LEADER (S01)

The Computer Centre, which runs an ICL 1904S under George 27 Maxiprep and a PRIME 550 requires an APPLICATIONS PROJECT LEADER.
He/she will control a small team of programmers engaged in, and offering advice on, a wide range of areas of applications. Candidates should be educated to degree level and be well experienced.
The inclusive annual salary will be on a scale from £6042 to £16411 according to age, qualifications and experience.
For further details and an application form, please contact the Personnel Officer, North East London Polytechnic, Arts House, 156-164 High Road, Chadwell Heath, Romford, Essex. Tel: 587 2321 (ask for Recruitment Section), quoting the reference number A153/79.
Closing date: September 7, 1979.

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To be responsible for the operation and supporting services in the central computer.
A Graduate in Computer Science or related subject is required, with several years' experience in the operation of computers in the field of scientific research and the ability to lead and organise the group.
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Application for this post should be addressed to: Mr. Rimmer, Institute Laue-Langevin, 158X Centre De Tri, 38042 Grenoble, Cedex, France.

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Up to £6237

We require a Systems Programmer to join a small team providing software support for a Univac 1100 systems.
The system is used in connection with control of the Natural Gas Transmission System and also provides some bureau services to British Gas Headquarters, primarily for engineering and planning applications.
The post, based in Hinckley, Leicestershire, involves the maintenance and development of the Univac 1100 Operating System and other standard Univac and in-house software, and support to the Operations Section and to computer users.

Applicants should ideally have two years' experience as a Systems Programmer using a low-level language, preferably on Univac 1100 systems, though experienced applications programmers or systems programmers on other computer ranges wishing to widen their experience would also be considered.

Present salary (currently under review) is within the range £4833-£6237 plus current self-financing productivity payment and the benefits normally associated with a large progressive organisation.

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To apply, please write giving full details of age, experience, qualifications and current salary, quoting reference PS/616401(705), to the Senior Personnel Officer (Hinckley), British Gas, 59 Bryanston Street, London W1A 2AZ. Closing date for applications: 6th September, 1979.

BRITISH GAS

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As a member of a small team, the successful applicant will convert existing systems to an in-house mainframe, develop new systems, and provide advice and assistance to users of time sharing services.

Current computer facilities (open to be extended) include interactive terminals connecting to time sharing business and the Authority's ICL 1904S system (1904S with 112K of core and 1,000 Mch of disk storage) and a CMC 5/200 used as an IJIE terminal to the Authority's IBM 370/148 system (with 370/148 with 6,000 Mbytes of on-line storage).

Applicants should have several years' experience, preferably including IBM DOS and Informatics MK IV.

In addition to the above mentioned salary, we are offering a 36 hour week with the opportunity to work a slightly longer working week and take one day off a month, 4 weeks' annual holiday, our own National Water Council Pension Scheme and a subsidised staff restaurant.

For an application form ring Lesley Ambrose on 01-222-8200 or write to her at 60/64 The Broadway, London SW1H 0DB.
Please quote reference 163.

Thames Water

Writer for Computer Weekly

A vacancy for a software writer has arisen on Computer Weekly, Britain's leading computer publication which is distributed to more than 80,000 computer personnel in the UK every week.
The vacancy will, ideally, be filled by a person with experience of software development and programming and with the ability to write clearly and concisely about these subjects.
The successful candidate will be required to maintain the high standards which have been achieved in covering the software scene in Computer Weekly and will be responsible for the Software File and Programmes News sections.
The post would suit a person with programming experience who wishes to work in a job affording a wider view of the computer business. However, the post could also provide a stimulating introduction to the computer world for a computer science graduate.
The salary is negotiable, depending on the successful candidate's qualifications and experience.
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Our clients, a world-wide manufacturing organisation, are to install an IBM System 34 in Spring 1980 and are looking for a person to head up the installation. The position is an important appointment and candidates must be able to match within reason the following:

1. Proven experience in installing financial applications on IBM system 34 or 3 from feasibility to implementation.
2. Programming background in RPG and Cobol.
3. The ability to communicate at all levels of management.
4. Personality will play an important role.

Although there is a management reporting structure the position is a 'hands on' one and the person must be self-motivated and capable of working with little supervision. The future is excellent for the right person because the client recognises people with management qualities and will promote to opportunities outside D.P.

Please telephone immediately to arrange a discussion or forward a C.V. to us

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required to take charge of the organisation of our computer facility and related services, including supervision of small group of programmers.

The computer is a newly installed DEC 2060 and is intended to provide interactive data handling and analysis facilities for a large number of scientists involved in a wide area of biomedical research.

Extensive experience in computer techniques essential. Salary up to £8,000 commensurate with age, qualifications and responsibility of the position.

For further information and application form write or telephone: Miss S. M. Hurley, Imperial Cancer Research Fund, Lincoln's Inn Fields, London, W.C.2 on 242-0200, ext. 305.

PROGRAMMER

C. £5,500

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INSURANCE CO. LTD.
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Telephone: Waltham Cross 31971

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An Analyst with at least three years' experience of analysis is required by a major American subsidiary to assist with conversion from ICL to IBM IBM COBOL programming experience would be a distinct advantage. WEST OF LONDON

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Several of our client companies are seeking Analysts with about three years' analysis experience to work on commercial projects covering financial, manufacturing, production, etc. applications. Companies are based in CRAWLEY, NETHERHILL, NORLEY, HAYWARDS HEATH, CAMBRIDGE, SLOUGH, HAYES & CROYDON

RPG II PROGRAMMER C. £6,000

RPG II ANALYST/PROGRAMMER C. £5,500

Two companies, one a manufacturing and the other a service organisation are seeking at least two years' experience to work at their System 3 installations. CROYDON/NR BECKENHAM

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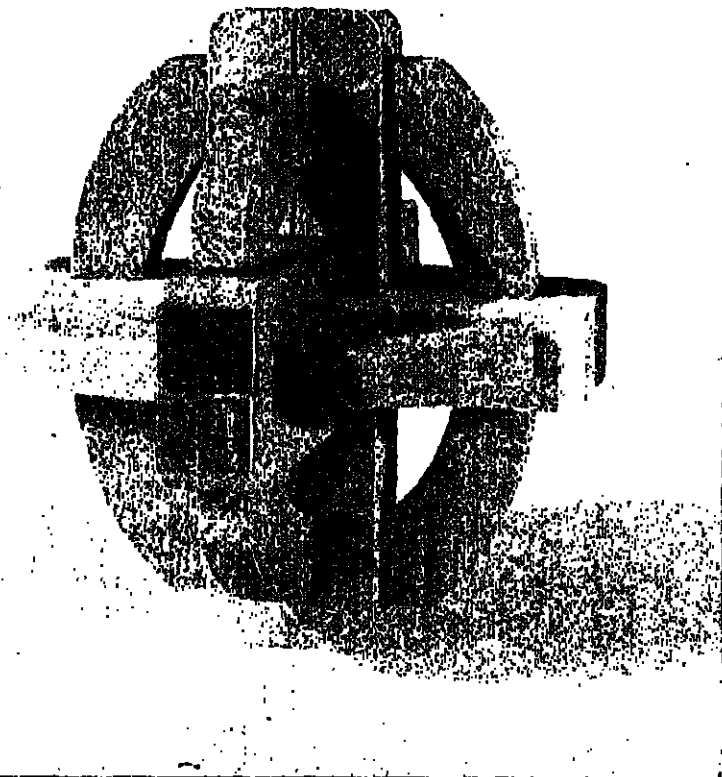
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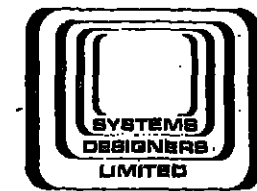
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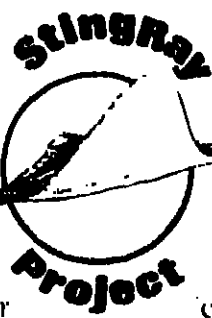
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THE SALES AND MARKETING BIT

'Product pioneering
should be
for someone else'

A READER recently wrote to me, having found himself in a most unusual and unsatisfactory company situation. His attitude towards his job and his company had been profoundly corrupted, and a sense of disillusionment and relative insecurity had been created.

If I give you an outline of the story, you will have a better appreciation of the man's feeling. During the course of new business prospecting, he unearthed a sales situation where negotiations were already in progress. He naturally asked the client about the requirement and soon discovered that his company did not have a product which matched the client's precise needs. (Whether these needs were, in fact, desires implanted in the buyer's mind by a competitive salesman was beside the point).

However, the salesman quickly recalled that during a recent visit to head office he had been told about a forthcoming new product which would offset the temporary competitive edge held by their principle business rivals and, as it happened, had a specification fitting exactly with the demands of his new prospect.

So he explained that he had some pre-release information on the particular new product, and as it would probably offer better cost/performance than the competitive product, would the client like a special preview if he could fix it? The client agreed to hold back on his other negotiation and make the visit, if it was possible.

The salesman quickly telephoned his sales manager, who apparently contacted the appropriate technical and marketing people and the visit was formally arranged. He then gave his prospect the good news and all was set for the big day.

On the day before the event, he was urgently summoned to his manager's office and told that the demonstration would have to be cancelled. Temporary fault, strikes, illness, holidays? What would be the revised date?

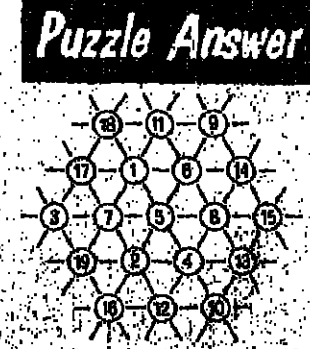
Never! There is no such product; there never was! The salesman was deeply shocked. But he realised he had to act quickly to salvage the situation with the client for the sake of the professional credibility of his company and himself.

So he suggested to his manager that a cancellation call from a more senior person than himself might be better received by his client in the circumstances. The sales manager agreed and promptly made the telephone call. Imagine the salesman's shock and dismay when the sales manager apologised to the prospect explaining that the situation was entirely due to over-enthusiasm and speculation on the part of their representative.

When this salesman wrote to me (as many do

TRADER

Puzzle Answer



ASSISTANT CITY TREASURER (COMPUTER)

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Applications are invited for the position of Assistant City Treasurer (Computer). Candidates must have extensive experience of computer techniques and have been in a senior management position for at least five years. The possession of a recognised qualification would be an advantage. The Assistant City Treasurer (Computer) is responsible for the operational efficiency of the computer, together with the control of cost and stores accounting and salaries and wages recording. Write to The City Treasurer, Civic Centre, Newcastle-upon-Tyne NE99 1RD, giving age, details of experience, qualifications and present salary, together with the names of referees by 3rd September, 1979.

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Applications, consisting of full education and career details and naming two referees, should be sent to Secretary (A1) at the School.

COMPUTER WEEKLY DP Opportunities in Banking & Insurance

Special Feature September 6 Issue

The September 6 issue of Computer Weekly — Britain's largest circulated computer publication — will contain a special feature outlining the career opportunities and employment prospects open to data processing personnel in banking and insurance.

The shortage of experienced DP personnel has been a major problem for employers during recent years and this is likely to remain the case for some time to come.

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Computer Weekly is the natural choice for recruitment advertising and always has had the highest circulation of any journal in the computer industry. Current average circulation has now risen to well over 90,000 with almost 25,000 more personally requested copies than the nearest competitor.

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Recruitment advertisement rate is based on £12.00 per sec and copy instructions should be received by Monday September 3.

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